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CONTENTS.

The whole of the literary matter in THE LANCET is copyright.

ARRIS AND GALE LECTURE on the Development of the Heart in Man in Relation to its Functional Activity. Delivered before the Royal College of Surgeons of England on March 2nd, 1914, by DAVID WATERSTON, M.A., M.D. Edin., F.R.C.S. Edin., Professor of Anatomy in the University of London. — (*Illustrated*) 1373

ORIGINAL ARTICLES.

The Diagnosis of Appendicitis. By WILLIAM H. BATTLE, F.R.C.S. Eng., Senior Surgeon to St. Thomas's Hospital, &c. 1379

Common Errors in the Treatment and Diagnosis of Dietetic Disorders in Infants. By ERIC PRITCHARD, M.A., M.D. Oxon., M.R.C.P. Lond., Physician to the Queen's Hospital for Children; Physician to Outpatients, City of London Hospital for Diseases of the Chest, &c. 1382

A Case of Sub-total Gastrectomy Performed for Cancer of the Stomach Five Years Ago. By C. MANSELL MOULLIN, F.R.C.S. Eng., Consulting Surgeon to the London Hospital 1385

A Pedunculated Intrabronchial Tumour (Sarcoma) Causing Bronchiectasis. By J. A. BRAXTON HICKS, M.D. Lond., M.R.C.P. Lond., D.P.H., Assistant Pathologist to Westminster Hospital, &c.—(*Illustrated*) 1386

A Consideration of some Cases of Exophthalmic Goitre Treated by Operation. By ALBERT J. WALTON, M.S., B.Sc. Lond., F.R.C.S. Eng., Assistant Surgeon to the London Hospital 1387

Malignant Tumours of Bones: a New Method in Conservative Operative Treatment. By Professor R. WENGLOWSKI, Moscow. — (*Illustrated*) 1391

The Influence of the X Rays on some Cases of Persistent Suppuration. By R. P. CUMBERBATCH, B.M. Oxon., M.R.C.P. Lond., Medical Officer in Charge of the Electrical Department, St. Bartholomew's Hospital 1392

MEDICAL SOCIETIES.

ROYAL SOCIETY OF MEDICINE: CLINICAL SECTION:—Exhibition of Clinical Cases and Pathological Specimens 1393

SECTION OF OPHTHALMOLOGY:—Pathological Observations on the Filtration Angle in some Glaucoma Cases.—Ideal Glaucoma Incision.—Variable Flap Operation for Chronic Glaucoma.—Herbert's Small-flap Operation for Glaucoma 1395

SECTION OF PATHOLOGY:—Cell Division.—Pseudotuberculosis Hyalina Testis 1396

MEDICAL SOCIETY OF LONDON: Ascites and its Treatment 1398

MEDICO-PSYCHOLOGICAL ASSOCIATION OF GREAT BRITAIN AND IRELAND: Address on Insanity 1397

LEEDS AND WEST RIDING MEDICO-CHIRURGICAL SOCIETY: Some Practical Points in Connexion with the Use of Therapeutic Suggestion.—Ulcerative Colitis.—Exhibition of Cases and Specimens 1398

LIVERPOOL MEDICAL INSTITUTION: Epithelioma of Eyelid Treated by Radium.—Five Cases of Osteitis Deformans.—Infant Feeding 1398

REVIEWS AND NOTICES OF BOOKS.

Defensive Ferments of the Animal Organism against Substances out of Harmony with the Body, the Blood Plasma, and the Cells; their Demonstration and their Diagnostic Significance for Testing the Functions of Different Organs. By Emil Abderhalden. Third edition. English translation by J. Gavronsky, M.R.C.S. Eng., &c., and W. F. Lanchester, M.A. 1399

International Clinics. Twenty-third Series, 1913. Vols. I., II., III., and IV 1399

Spezielle Pathologie und Therapie innerer Krankheiten. Edited by Friedrich Kraus and Theodor Brugsch 1400

Therapeutics of the Circulation. By Sir Lauder Brunton. Second edition 1401

Handbuch der Vergleichenden Physiologie. Herausgegeben von Hans Winterstein 1401

Miscellaneous Volumes 1401

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British Journal of Inebriety 1403

NEW INVENTIONS.

New Mouth Gag.—(*Illustrated*) 1403

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LEADING ARTICLES.

THE PREVENTION AND TREATMENT OF TUBERCULOSIS IN LONDON 1405

THE PLEA FOR IMMEDIATE OPERATION IN APPENDICITIS 1406

ANNOTATIONS.

Recent Researches on Yellow Fever in West Africa 1408

Healthy Meningitis Carriers 1408

Cholecystitis without Stones or Jaundice in its Relation to Chronic Pancreatitis 1409

Purpura Vesicæ and Simple Ulcer of the Bladder 1409

Fracture of the Carpal Cuneiform Bone 1410

The Cause of Landry's Paralysis 1410

The Sero-Diagnosis of Cancer 1411

"The Family Encyclopædia of Medicine" 1411

A Memorial to Dr. Lucas-Championnière 1412

The Location of the Typhoid Bacilli in the Body of the Carrier 1412

The China Medical Missionary Association 1412

VITAL STATISTICS:
Health of English Towns 1413
Health of Scotch Towns 1413
Health of Irish Towns 1414

SPECIAL ARTICLES.

Royal Commission on Venereal Diseases 1413

The Services 1414

Medical Practice under the Insurance Act. XLV.—Southend-on-Sea.—(*To be continued*) 1416

Motoring Notes 1418

HOME AND FOREIGN NOTES.
(FROM OUR OWN CORRESPONDENTS.)

Liverpool 1420
Bristol and Western Counties 1420
Scotland 1420
Ireland 1422
Paris 1422
Berlin 1423
Budapest 1424

CORRESPONDENCE.

The Boy Scouts Movement (Sir Lauder Brunton, Bart.) 1427

"Encyclopædia Medica" (Dr. Henry Jellett) 1428

The Electrical Treatment of Milk (Prof. J. M. Beattie) 1428

The Causation of Post-operative Massive Collapse of the Lung (Dr. W. Pasteur) 1428

The Medical Insurance Agency (Dr. G. E. Haslip) 1429

Domiciliary Treatment of Tuberculosis (Dr. J. R. Garrood) 1429

Diathermy in Vesical Hæmorrhage (Dr. C. E. Iredell and Mr. Ralph Thompson) 1429

Medical Practice under the Insurance Act: the Allegation of Bribery (Mr. E. M. Leonard) 1430

The late Colonel J. O. Will, R.A.M.C. (Mrs. Will) 1430

William Hawes and Alexander Johnson 1430

"Millibars" (Sir John W. Moore) 1436

OBITUARY.

John Abercrombie, M.D. Cantab., F.R.C.P. Lond., Consulting Physician to Charing Cross Hospital 1425

Thomas Frederick Pearse, M.D. Brux., F.R.C.S. Eng., M.R.C.P. Lond., D.P.H. Camb., late Health Officer of Calcutta 1428

THE NATIONAL INSURANCE ACT.

Sanatorium Benefit in Middlesex 1430

Birmingham nsurance Committee 1431

Voluntary Hospitals and the Insurance Act 1431

A Leading Friendly Society and the Insurance Act 1431

East Riding Insurance Committee 1431

MEDICAL NEWS.

Asylum Workers' Association 1385

A Cornish Centenarian 1398

Caravan Club 1398

Royal Statistical Society 1403

Literary Intelligence 1403

Royal Devon and Exeter Hospital 1404

The French Hospital 1407

London School of Clinical Medicine: Instruction in Venereal Diseases 1413

Donations and Bequests 1415

Training of the Blind 1425

Conference on Infant Mortality 1425

University of Cambridge: The Linacre Lecture.—Degrees conferred 1431

British Medical Temperance Association 1431

Medical Inspectorships under the Board of Control 1431

Society of Tropical Medicine and Hygiene 1431

Municipal Honour for a Medical Man 1432

Pharmaceutical Society 1432

Royal Hospital for Diseases of the Chest: Centenary Festival Dinner 1432

Royal Medical Benevolent Fund 1432

PARLIAMENTARY INTELLIGENCE.

Notes on Current Topics 1433

House of Lords 1433

House of Commons 1433

Books, &c., received 1434

Appointments 1434

Vacancies 1435

Births, Marriages, and Deaths 1436

Notes, Short Comments, and Answers to Correspondents 1436

Medical Diary 1437

Meteorological Readings 1439

Acknowledgment of Communications received 1439

FOR INDEX TO ADVERTISEMENTS SEE PAGES 2 & 4.

INDEX

MEDICAL AND OTHER BOOKS AND PUBLICATIONS

ARNOLD:— PAGE
Howard .... Surgery ..... Cover 1
Sibley ..... Treatment of Diseases of the Skin .. Cover 1

BAILLIERE, TINDALL & COX:—
Bigg ..... Indigestion, &c..... 8
Clarke, E. .. Errors of Accommodation, &c. .. Cover 1
Howard .... The Potato in Treatment of Gout Cover 1
Jennings .. Morphia Habit Cover 1
Thorne .... Nauheim Treatment of Diseases of the Heart..... Cover 1
Witthaus .. Toxicology .... Cover 1

BALE, SONS & DANIELSSON:—
Hawthorne. Studies in Clinical Medicine .... Cover 1

CASSELL & CO.:—
Morris, Sir M..... Diseases of the Skin 8

CHURCHILL, J. & A.:—
Fenwick .. Urinary Tuberculosis Cover 1
Fenwick .. Cancer and Tumours Cover 1
" .. Ulcer, &c. .... Cover 1
J. & A. Churchill's New Books Cover 1

FROWDE AND HODDER & STOUGHTON:—
Lockwood.. Clinical Surgery..... 8
Waring .... Surgical Diseases of Gall Bladder, &c. .. 8
" .... Operative Surgery .. 8

HILTON & CO.:—
Ghosh ..... Materia Medica 8

KIMPTON:—
Forrest .... Eye, Ear, Nose and Throat..... Cover 1

LEWIS:—
Bennett .... Materia Medica and Pharmacy 3
Binnie..... Manual of Operative Surgery 3
Burnham .. Hæmocytes & Hæmic Infections 3
Fenwick .. Disorders of Digestion, &c..... Cover 1
" .. Dyspepsia of Phthisis Cover 1
Harris .... Medical Electricity .. 3
Murray .... Rough Notes on Remedies 3
Powell, Sir R. D., & Hartley Diseases of the Lungs and Pleuræ 3
Scott ..... The Road to a Healthy Old Age 3
Smith ..... Common Remedies .. 3
Stevens .... Medical Diagnosis .. 3
Stitt..... Practical Bacteriology, Blood Work, &c. 3
Stoddart .. Mind and its Disorders 3
Taylor..... Sanitary Inspector's Handbook 3
Thursfield & Branson.. Medical Morbid Anatomy and Pathology 3
Tilley ..... Diseases of the Nose, &c. ..... Cover 1

LONGMANS, GREEN & CO.:—
Cheyne, Sir W., & Burghard. Surgical Treatment.. 6
Gray's Anatomy..... 6
Hailliburton Chemical Physiology. 6
Hare ..... Food Factor in Disease ..... Cover 1
Herschell & Abrahams Chronic Colitis 6
Kaye ..... X Rays..... 6
Notter & Firth .... Hygiene 6
Notter & Firth .... Practical Domestic Hygiene 6

MACMILLAN & CO.:—
Ballance .. Cerebral Decompression in Ordinary Practice 8
Houston .. Water Supply 7
Milligan & Wingrave. Practical Handbook of Diseases of the Ear 7
New System of Medicine 7
Paton ..... Nervous & Chemical Regulators of Metabolism 7
Rolleston .. Diseases of the Liver, Gall-Bladder, and Bile-Ducts 7

MEDICAL PUBLISHING CO.:—
Lane, Sir W. A.. Operative Treatment of Fractures 8
" Cleft Palate and Hare Lip 8

NISBET & CO.:—
Lane, Sir W. A.. Treatment of Chronic Constipation 8

OPHTHALMOSCOPE PRESS:—
Stephenson. Eye-Strain in Everyday Practice. Cover 1

SAUNDERS COMPANY:—
Keeley .... Practice of Pediatrics 5
Ward ..... Bedside Hæmatology Cover 1
Ward ..... Bedside Hæmatology 8

SCIENTIFIC PRESS:—
Stephenson. Ophthalmic Nursing Cover 1

UNIVERSITY OF LONDON PRESS:
Bidwell .... Minor Surgery 8
Cole ..... Mental Diseases 8
Evans ..... Diseases of the Skin.. 8
Turner & Carling .. Treatment after Operation 8

WRIGHT & SONS (BRISTOL):—
Smith..... Lateral Spinal Curvature and Flat Foot Cover 1

MEDICAL LIBRARIES, &c.:—
An English Medical Guide to Chatel-Guyon-les-Bains .. Cover 1
Behnke—Stammering..... 9
Ketley—Stammering 8
Matthews Bros.—
Wood: Application of Trusses 8

OFFICIAL AND GENERAL ANNOUNCEMENTS

APPOINTMENTS VACANT:—
Addenbrooke's Hosp., Cambridge. 72
Banffshire District Lunatic Asylum 72
Beckett Hospital, Barnsley 71
Bedford County Hospital..... 67
Birmingham General Dispensary.. 72
Birmingham and Midland Hospital for Skin, &c., Diseases 71
Bolton Infirmary and Dispensary. 67
Bootle Borough Hospital..... 68
Bradford Children's Hospital 73
Bradford Royal Infirmary 71
Bristol Royal Infirmary 68
Bury Infirmary 66
Cancer Hospital, Fulham road..... 67
Chelsea Hospital for Women..... 73
Chesterfield and North Derbyshire Hospital 71
City of Birmingham Education Committee 68
City of Hull Education Committee 71
City of Nottingham Education Committee 67
Corporation of Birmingham City Hospital 72
Corporation of Manchester—Monsall Fever Hospital 68
County Borough of Bury 73
County Borough of St. Helens 70
Darlington Hospital and Dispensary 73
Devon County Asylum, Exminster 71
Durham County Asylum 69
Durham County Council 71
Durham County Hospital 68
Eccles and Patricroft Hospital .. 68
Essex County Hospital, Colchester 67
Evelina Hospital for Sick Children 68
Flintshire Education Committee.. 70
General Infirmary, Leeds..... 73
General Infirmary, Macclesfield .. 73
Glasgow Maternity and Women's Hospital 73
Great Northern Central Hospital. 70
Haywood Hospital, Burslem 68
Hampstead General and North-West London Hospital 71
Huddersfield Royal Infirmary 73
Jessop Hos. for Women, Sheffield. 69
Kent County Asylum, Maidstone.. 67
King Edward VII.'s Hos., Cardiff. 72
Lambeth Parish Infirmary, &c..... 69
Leeds Public Dispensary 71
London County Asylum, Bexley .. 70
London Hospital, Whitechapel 69
Manchester Northern Hospital for Women and Children 70
New Hospital for Women 69
Newark upon Trent Hospital 67
Newcastle-upon-Tyne Dispensary. 68
Norfolk Education Committee.. 73
North Lonsdale Hospital, Barrow-in-Furness 68
North Ormesby Hospital, Middlesbrough 67
North Riding Asylum, York 69
Nottingham General Hospital.. 68, 73
Notts County Council 72
No. 913, L.O., Strand 71
Oldham Royal Infirmary 68
Oxfordshire Education Committee 69
Paddington Green Children's Hospital 71
Parish of Leicester—North Evington Poor-law Infirmary 70

APPOINTMENTS—(Continued).
Portsmouth Corporation Mental Hospital 71
Prince of Wales's General Hosp., Tottenham 67
Public Dispensary, Drury-lane.. 72
Public Health Department of Egypt 70
Queen's Hospital for Children, Hackney-road 69
Queen's University, Kingston, Canada 73
Rochdale Infirmary and Dispensary 67
Rotherham Hospital 68
Royal Albert Hospital, Devonport 66
Royal Albert Edward Infirmary and Dispensary, Wigan 67
Royal Alexandra Hospital for Sick Children, Brighton 71
Royal Eye Hospital, Southwark .. 69
Royal Hospital for Diseases of the Chest, City-road 68
Royal Infirmary, Sheffield 66
Royal London Ophthalmic Hosp... 67
Royal Samaritan Hos. for Women, Glasgow 72
Royal South Hants and Southampton Hospital 67
Royal Sussex County Hospital, Brighton..... 70
Royal Waterloo Hospital for Children and Women 69
Royal Westminster Ophthalmic Hospital 69
St. Mark's Hospital for Cancer.... 71
St. Mary's Hospitals for Women and Children, Manchester 72
St. Marylebone General Dispensary 70
Salford Royal Hospital 71
Salisbury Infirmary..... 67
Salop Infirmary, Shrewsbury..... 69
Scottish Western Asylums' Research Institute, Glasgow 69
Sheffield Union Hospital 71
Southwark Union Infirmary 68
Stroud General Hospital 68
Swansea Education Committee .. 68
Swansea General and Eye Hosp... 69
Township of Leeds 69
University of Otago, New Zealand 67
Victoria Hospital, Burnley 69
Walsall and District Hospital 68
West Ham and Eastern General Hospital 68
West Herts Hospital, Hemel Hempstead 67
West London Hospital, Hammersmith-road 70
West Norfolk and King's Lynn Hospital 73
West Sussex County Asylum, Chichester..... 72
Westminster Hospital 72
Wolverhampton and Midland Counties Eye Infirmary 67

ASSISTANCIES, MEDICAL..... 73

ASYLUMS, HOMES, &c.:—
Ashwood House, Kingswinford .. 57
Association of Medical Men Receiving Resident Patients 66
Barnsley Hall, Bromsgrove..... 57
Barnwood House Hospital 66
Bishopstone House, Bedford..... 57

ASYLUMS—(Continued).
Bootham Park, York 57
Brunton House, Lancaster..... 66
Buntingford House Retreat, Buntingford 60
Camberwell House, Peckham-road 60
Cheadle Royal..... 58
City of London Mental Hospital, Stone..... 66
Clarence Lodge, Clapham Park .. 57
Colthurst House, Alderley Edge .. 65
Coppice, The, Nottingham 58
Dalrymple House, Rickmansworth 61
David Lewis Colony, Alderley Edge 65
Duff House, Banff..... 63
Earlswood Asylum 60
Elliot, Southwell 66
Farnham House, Dublin 59
Ghyllwoods 61
Grove House, Church Stretton 58
Grove, The, Catton, Norwich..... 56
Haslemere Nursing Home 66
Haydock Lodge, Newton-le-Willows 59
Haynes, Brentwood 64
Heigham Hall, Norwich 57
Home for Epileptics, Maghull 57
Invernith Sanatorium, Colinsburgh 60
Kingsdown House, Box..... 57
1865, Kingsway 66
London Fever Hospital 58
London Sanatorium..... 61
Malling Place, Kent 58
Manna Mead, Blackheath 66
Maryville, Dublin 59
Melbourne House, Leicester 65
Mendip Hills Sanatorium 63
Middleton Hall, Co. Durham..... 57
Moat House, Tamworth 58
Mundesley Sanatorium 61
Newlands House, Tooting Bec Common 57
Newmains Estates, Lanarkshire.. 61
New Saughton Hall, Polton, Midlothian 59
Nordrach-on-Dee, Banchory 62
Northumberland House, Finsbury Park 60
Northwoods House, Winterbourne 59
Norton House..... 66
Norwood Sanatorium, Ltd..... 61
No. 898, L.O., Strand 66
No. 899, L.O., Strand 66
No. 912, L.O., Strand 66
No. 922, L.O., Strand 66
Osea Island, Heybridge..... 60
Otto House, West Kensington 65
Peckham House 60
Pendyffryn Hall Sanatorium, Nordrach-in-Wales 61
Pinewood Sanatorium, Wokingham 62
Plympton House, Plympton 58
Portsmouth Corporation Mental Hospital 57
St. Andrew's Hospital, Dollis Hill 66
St. Andrew's Hosp., Northampton 58
St. George's Retreat, Burgess Hill 57
St. Luke's Hospital for Mental Diseases 57
Springfield House Private Asylum, Bedford 58
Stretton House, Church Stretton.. 58
The General Manager, Craven-st.. 66
The Grange, near Rotherham 58

ASYLUMS—(Continued).
Vale of Clwyd Sanatorium 62
Warneford Asylum, Oxford..... 57
White, Clapham Park 66
Wye House, Buxton..... 58

FINANCIAL, &c.:—
Equitable Reversionary Interest Society.. 54

HEALTH RESORTS, BATHS, &c.:—
Aix-les-Bains, Savoy ..... Cover 11
Alexandra Therapeutic Institute.. 65
Allevard-les-Bains 63
Bad Homburg 64
Bad Wildungen 63
Baden, Switzerland 65
Badgastein 65
Felixstowe.. 42
Marienbad..... 63
Royal Bad Kissingen 64
Royal Ems..... 64
Smedley's, Matlock 65
Wildbad 65

HOTELS:—
Hotel Windsor 63

HOUSE & ESTATE AGENTS:—
Bedford & Co., Wigmore-street.... 75
Elliott, Son & Boyton, Vere-street. 76
Haines, East Sheen..... 75
Hart, Tottenham 75
Jenkins, Balham 75
Ley Clark, Wimpole-street 75
Montgomery, Mallow 75
No. 920, L.O., Strand 75
No. 923, L.O., Strand 75
Powell & Powell, Bath 75
Warde, Charing Cross-road..... 75
CONSULTING-ROOMS:—
No. 925, L.O., Strand 75

LIFE & FIRE ASSURANCES, &c.:—
General Life Assurance Co. 54
National Provident Institution .. 54
Prudential..... 54

MASSAGE:—
Associated Male Nurses and Masseurs 54
London School of Massage 54
School of Massage and Swedish Remedial Exercises..... 54

MEDICAL ACCOUNTANTS, &c.:—
Turner 74

MEDICAL AGENTS:—
Fieldhall, Limited..... 76
Johnson 76
Manchester Clerical, &c., Assoc.. 76
Medical Agency 76
Needes, Herbert..... 76
Needes, J. C. 76
Peacock & Hadley..... 76
Scholastic, Clerical, &c., Association..... 77
Turner 76

MEDICAL SCHOOLS:—
(LONDON.)
Central London Ophthalmic Hos. 51
London School of Clinical Medicine 52
West London Post-Graduate Coll.. 52
(PROVINCIAL, &c.)
University of Durham 52

For continuation of Index to Official and General Announcements, and Trade and Miscellaneous Advertisements, see page 4.

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INDEX—(CONTINUED).

PAGE

NURSING INSTITUTES:—
Army and Navy Male Nurses Co-operation ... 56
Certificated Nurses Association ... 55
Co-operation of Temperance Male and Female Nurses ... 56
General Nursing Association ... 56
Hospital for Sick Children, Great Ormond-street ... 57
Leeds Trained Nurses' Institution 57
London Nurses' Association ... 56
London Temperance Male and Female Nurses Co-operation ... 55
Male Nurses Temperance Co-operation ... 55
Mental Nurses' Co-operation ... 54
New Mental Nurses' Co-operation 56
Nurses' Co-operation, Portland-place ... 56
Registered Nurses' Society ... 56

PAGE

NURSING INST.—(Continued).
St. John's House ... 54
St. Luke's Hospital ... 57
Temperance Association of Male Nurses, Ltd. ... 55
Temperance Male Nurses Co-operation ... 56
Temperance Male and Female Nurses Co-operation ... 56
The Retreat, York ... 54

OFFICIAL NOTICES:—
Central London Throat, Nose and Ear Hospital ... 53
Charity Commission ... 53
City of London Lying-in Hos. 52
Dr. Edith Pechey Phipson Post-Graduate Scholarship ... 53
Edinburgh Post-Graduate Courses in Medicine ... 52

PAGE

OFFICIAL NOTICES—(Continued).
Hospital for Sick Children, Great Ormond-street ... 51
London Hospital Medical College. 55
London Lock Hospital ... 51
London School of Tropical Med. 51
Medical Graduates' College and Polyclinic ... 53
Queen Charlotte's Lying-in Hos. 52
Royal Eye Hospital, Southwark .. 53
Royal Institute of Public Health.. 76
Royal Society of Medicine ... Cover ii
St. Mary's Hospital Medical School 53
University College Hosp. Medical School ... 53
University of Birmingham ... 53
University of London ... 55
West End Hospital ... 52
West End Hospital for Diseases of Nervous System ... 51

PAGE

PARTNERSHIPS & PRACTICES 76

RAILWAY & STEAMSHIP CO.'S:—
G.E.R., Liverpool-street—
Harwich-Hook of Holland Route ... 54
Harwich-Antwerp Route ... 54
New Zealand Shipping Co. ... 54

SCHOOLS, PREPARATORY, &c.:—
British and Foreign Schools Agency, Manchester ... 53

TUTORS & LECTURERS:—
Carter ... 55
Med. Corres. College ... 54
Schnelle ... 8
Mueller-Walle System of Lip Reading ... 9
Weymouth .. 54

TRADE AND MISCELLANEOUS ADVERTISEMENTS

AMBULANCES:—
St. John Ambulance—
Invalid Carriages ... 11

BOTTLE MERCHANTS:—
Isaacs ... 48

CARRIAGES, MOTORS, &c.:—
Armstrong—
Coachmen's, Grooms', and Chauffeurs' Liveries ... 11
Clement Talbot, Ltd.—
Invincible Talbot ... 11
Morgan & Co.—
Morgan-Adler Carette ... 11

CHEMISTS & DRUGGISTS:—
Allen & Hanburys—
Allenburys Cod-Liver Oil ... 39
Bynol ... 39
Bynin Emulsion ... 29
Angio-American Pharmaceutical Co.—
Huxley's Syrup Formates with Glycero-Phosphates ... 25
Antikamnia Chemical Co.—
Antikamnia ... 28
" & Codeine Tablets 28
Armbrecht, Nelson & Co.—
Radium Emanation Water.... 48
Armour & Co.—
Corpus Luteum ... 45
Pituitary Liquid ... 45
Bayer Co.—
Guycose ... 36
Aspirin ... 36
Spirosal ... 36
Mecetan ... 36
Benger's Food, Ltd.—
Pepsine Pills ... 37
Bristol-Myers Co.—
Sal Hepatica ... 21
British Organotherapy Co., Ltd.—
Lymphoid Compound ... 32
Lymph Serum ... 32
British Oxygen Co.—
Oxygen ... 46
Bullock & Co.—
Pepsina Porci ... 46
Acid Glycerine of Pepsine 46
Burroughs Wellcome & Co.—
Kepler Malt Extract with Glycerophosphates ... 40
Carnrick & Co.—
Liquid Peptonoids..... Cover iv
Chesebrough Mfg. Co.—
White Liquid Vaseline ... 20
Christy & Co.—
Glyco-Thymoline ... 26
Ergoapiol ... 23
Cook & Co.—
Solace Shaving Soap .. Cover ii
Cordes Hermanni & Co.—
Ichthyol ... 21
Denver Chemical Mfg. Co.—
Antiphlogistine ... 24
Dinneford's Fluid Magnesia ... 47
Gale & Co., Ltd.—
Entrapure ... 22
Bugonum ... 22
" Antiseptine ... 22
Grillon—
Tamar Indien Grillon ... 48

CHEMISTS—(Continued).
Heppel & Co.—
Filudine ... 35
Globeol ... 35
Jubol ... 35
Urodonal ... 35
Howlett & Son—
Mist. Pepsinæ Co. c. Bismutho 29
Humphrey Taylor & Co.—
Junora ... 31
Lecithin-Ovo ... 31
Kreochyle Co.—
Bard Boro-Glyceride ... 26
Lambert Pharmacal Co.—
Listerine ... 21
Maltine Manufacturing Co.—
Maltine ... Cover iv
Compounds ... " iv
Meister Lucius & Brüning—
Valyl-" Hœchst " ... 30
Sabromin ... 30
Pegnin ... 30
Migrainine ... 30
Melubrin ... 30
Amphotropin ... 30
Ferrosajodin ... 30
Mertens—
Nourry's Iodinated Wine ... 30
Cacodylate of Sodium ... 30
Enésol ... 30
Newbery & Sons—
Pulvis Jacobi Ver. ... 44
New York Pharmaceutical Co.—
Bay den's Viburnum Compound ... 24
Parke, Davis & Co.—
Rheumatism Phylacogen ... 35
Pharmazeut.-Fabrik "Stein"—
Valbromid ... 47
Raimes & Co.—
Slinger's Nutrient Suppositories ... 41
Richards & Sons—
Lactopeptine ... 30
Roberts & Co.—
Cord. Ext. Ol. Morrhuæ Comp. 32
Képhir Salières ... 22
S. P. Charges Co.—Sulphaqua 22
Welford & Sons—
Sauermilch ... Cover ii
Willows, Francis, Butler & Thompson, Ltd.—
Pollantin ... 48
Wright, Layman & Umney—
Liquor Carbonis Detergens.... 30
Zimmermann, A. & M.—
Schering's Beta-Eucain Lactate 23
Schering's Urotropin ... 23
Iodol ... 20
Zimmermann & Co.—
Rheumasan ... 46

DISINFECTANTS:—
Sanitas Co.—
Sanitas Fluid ... 43

ENGRAVERS (NAME PLATES) &c.—
Cooke & Co.—
Brass Name Plates and Lamps 9
Osborne & Co.—
Brass Door Plates ... 10

FOODS:—
Allen & Hanburys—
Allenburys' Diet ... 38
Aylesbury Dairy Co.—
Humanized Milk ... 49

FOODS—(Continued).
Benger's Food, Ltd.—
Essence of Rennet ... 37
Pancreatised Lentil Flour 37
Blatchley's Diabetic Preparations Cover iii
Bonthron & Co.—
Biogene Cocoa ... 47
Charcoal Biscuits ... 47
Brand & Co.—Meat Juice ... 48
Callard & Co.—
New Diabetic Foods ... 44
Casein Limited—
Vi-Casein ... 44
Fry's Malted Cocoa ... Cover iii
Hommel's Hæmatogen—
Hommel's Hæmatogen ... 41
Horlick's Malted Milk Co.—
Malted Milk ... 26
Kreochyle Co.—Kreochyle ... 20
Maconochie Bros.—
Pan Yan Pickle ... 49
Manbu Food Co.—
Manbu Diabetic Foods ... 44
Mellin's Food, Ltd.—
Mellin's Food ... 28
Nestlé's Milo Food Dept.—
Milo Food ... 25
Peter's Swiss Milk Chocolate.... 39
Savory & Moore—
Peptonised Milk Preparations. 25
Valentine's Meat Juice Co.—
Meat Juice ... Cover iii
Van Abbott & Sons—
Gluten Flour ... Cover iii
Wander, Ltd.—
Ovaltine ... 34

FURNITURE, &c.:—
Carter—
St. Leonards New Model ... 14
Southsea Wicker Spinal Carriage ... 14
Maple & Co.—
Writing Tables, Chairs, Adjustable Couches, &c. ... 38

MED. & SURG. APPLIANCES:—
Arnold & Sons—
The New Patent Phonophore Stethoscopes ... 14
Bailey & Son—
Operation Theatre Outfit.... 12
Davis—Lukens Sterile Catgut 10
Holborn Surgical Instrument Co.—
"H.B." Tuberculine Syringes ... 13
Holland & Son—
Patent Instep Supports ... 9
Hospitals and General Contracts Co.—Instruments, Dressings, &c. 42
Medical Supply Association—
Burgonie System of Treating Obesity ... 50
Millikin & Lawley—
Osteology, &c. ... 9
Robinson & Sons—
Capsicum Gamgee Tissue 75
Southall Bros. & Barclay—
Accouchement Sets ... 11
Teake, Ltd.—
Stethoscope ... 13
Timpson & Co.—
Canthoc Blister Plaster.... 10
Vincent Wood—
Eureka Crêpe Velpeau Bandages ... 10
Zeal—Ilopello Thermometer ... 9

MINERAL WATERS:—
Davis—
Turasp Water ... 49
Del Mar—Vittel ... 49
Hogg & Son—
Aërated Lime-Water ... 44
Ingram & Royle—
Contrexéville ... 18
Carlsbad Natural Mineral Waters ... 27

OPTICIANS:—
Bausch & Lomb Optical Co.—
Microscopes ... 9

STATIONERY, &c.:—
Mabie, Todd & Co.—
Swan Fountpens ... 50

STOVES, &c.:—
British Commercial Gas Association—
Gas Water-heater ... 19
Gas Fires ... 19

TAILORS, BOOTMAKERS, &c.:—
Burberrys—
Motor Burberry ... 17
The Burberry ... 17
Evans & Co.—
Regent Morning Coat ... 41

TOBACCO, CIGARS, &c.:—
Player & Sons—
Perfectos Cigarettes ... 49
Vallora Cigarettes ... 49

TYPEWRITING, &c.:—
Yost Typewriter Co.—Yost ... 50

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Dr. Pannier's Dry Vaccine ... 10
Jenner Institute for Calf Lymph.. 10
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Benson, Ltd.—
"Field" Watch ... 12

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De Kuyper's Hollands ... 47
Humphrey Taylor & Co.—
"H.B." Diabetes Whisky ... 33
Quantock Vale Cider Co.—
Pure Cider ... 47
Williams & Co.—
Chancellor Brandy ... 41

X-RAY, &c., APPARATUS:—
Ilford, Limited, Ilford—
X-Ray Plates ... 50
X-Ray Films ... 50

MISCELLANEOUS:—
Hepworth, Highgate—Typewriting 74
Hooper & Co., St. James's-street—
Electromobile Landaulette 75
No. 914, L.O., Strand—
Representative required ... 75
Portman Income Tax Relief Agency ... 74
Randall Bros.—Faripan ... 15

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ON

THE DEVELOPMENT OF THE HEART IN MAN IN RELATION TO ITS FUNCTIONAL ACTIVITY.

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BY DAVID WATERSTON, M.A., M.D. EDIN., F.R.C.S. EDIN.,

PROFESSOR OF ANATOMY IN THE UNIVERSITY OF LONDON.

MR. PRESIDENT AND GENTLEMEN,—I wish to bring under your notice some results of the observations on human embryology which have been made in my laboratory during the past year or two. The subject I have selected deals with problems of embryology which have a distinct relationship to adult anatomy and physiology, as well as to clinical work, and the observations will therefore prove of interest to those who are engaged in clinical study and practice as well as to those who are mainly occupied in laboratory work.

THE PROBLEMS OF HUMAN EMBRYOLOGY IN RELATION TO THE HEART.

As an anatomist I feel that no explanation is necessary for discussing problems of human embryology, for we have come to recognise the fact that knowledge of the adult human body is incomplete without a comprehension of the successive stages through which all the parts and organs of the body pass before the adult condition is attained. From another standpoint, we now regard the adult (type of) organism which forms the usual object of study in anatomical laboratories, as representing only one of the phases of human structure, and the sphere of embryology includes not only the changes which occur during the intra-uterine life of the embryo, but also the numerous and great changes which occur after birth.

We have expanded that narrow view of embryology which looks to it merely for an explanation of teratological defects, and in place of that, we look to embryology to elucidate and to explain many of the problems of infantile, adolescent, and senile structure, with which are connected the physiological peculiarities which characterise these divisions of human life.

This aspect of embryology is nowhere better illustrated than in the problems which arise in connexion with the structure and function of the heart. The general lines of the development of that organ have been worked out in considerable detail, but the recent advances which have been made in our knowledge of the anatomy and physiology of the fully developed heart have drawn attention to some features of its development which have not yet been fully elucidated, and it seems to me that a knowledge of its development is likely to throw some additional light upon its functional activity in the adult.

During the whole process of its development the heart is a functioning organ—in other words, from the time of its first appearance it is actively engaged in carrying on the circulation in the body of the embryo and in the placenta. In this respect it differs from the other organs of the body. During the process of their development, with a few exceptions, they are not physiologically active, or their activity during fœtal life is of a different kind from their adult function. Since this is so, it seems likely that an investigation of the functional activity and the regulating mechanism of the heart during fœtal life would reveal facts of some importance in connexion with the study of the adult heart.

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The special advances which have occurred within recent years include the knowledge that has been gained of the atrio-ventricular bundle, and also of the sinu-auricular node of Keith and Flack.

The first of these structures, as you are aware, forms a connecting band between the musculature of atria and the ventricles of the heart. It can usually be detected by macroscopic examination, and it originates in a node of tissue situated in the wall of the right atrium, near the orifice of the coronary sinus. From that node the bundle passes towards the ventricular septum, below the membranous portion of the septum, and divides into right and left branches—the right branch passing downwards in the septal wall of the right ventricle and the left passing through the ventricular septum to the wall of the left ventricle. Each division of the bundle breaks up into branches, which ramify under the endocardium of the ventricular chambers. The network which the branches form is a very complex one, and it can best be demonstrated by a method of injection, for the bundle and its branches are surrounded by a loose connective tissue, or possibly even a large space, into which Indian ink can be injected, and the fluid passes along the course of the branches.

The sinu-auricular node of Keith and Flack is a node of tissue with distinctive histological characters, placed near the entrance of the vena cava superior, on the lateral wall of the right atrium, at the junction of the sinus venosus and atrium in the sulcus terminalis. There may be other connexions between atrium and ventricle, but I do not propose to discuss the evidence for the existence of these.

Of the function of these structures the atrio-ventricular bundle appears to regulate the sequence of the atrio-ventricular contractions, while the sinu-atrial node has been termed the "pace-maker of the heart," and in it there originates the wave of contraction which spreads over the whole atrium.

THE EMBRYOS STUDIED.

The material which I have prepared and studied consists of some specimens from a series of human embryos. Sections of the first and youngest of these were entrusted to me by Mr. Henry Wade and by Professor B. P. Watson, while for some of the others used in this investigation I am indebted to my friend, Dr. H. J. F. Simson, and to these gentlemen I wish to record my grateful thanks.

The work of examining these embryos and of making the models has been carried out in my laboratory in King's College, and I wish to acknowledge the untiring assistance I have received from my skilled laboratory assistant, Mr. Weston.

HEART OF EMBRYO 3 MM. IN LENGTH.

I begin at the stage at which the embryonic heart presents itself as a twisted tube-like structure, dilated and contracted at intervals, enclosed in the pericardial sac.

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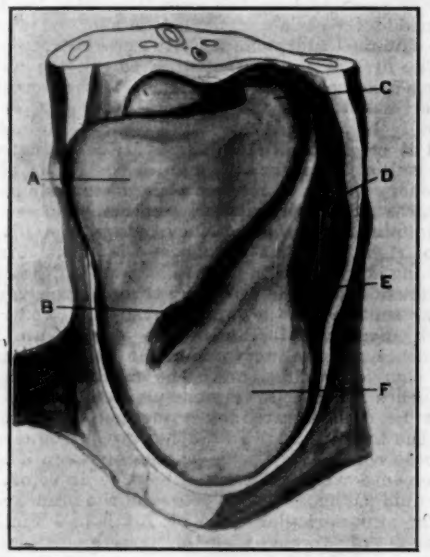
embryo almost 3 mm. long, and presumably in about the third week of development. The external form of the embryo, with its yolk sac, amnion, chorion, were reconstructed at a magnification of 50 diameters. The model of the heart and adjacent part of the trunk has been reconstructed in wax plates at a magnification of 200 diameters.

Features of the Heart.

Viewed from the front the ventricle and the bulbus cordis are seen. (Fig. 1.) The former is a

FIG. 1.



Reconstruction of heart of human embryo three to four weeks old. A, Bulbus cordis. B, Bulbo-ventricular groove. C, Conus arteriosus. D, Auricle (atrium). E, Auricular, or atrial, canal. F, Ventricle.

conical chamber which already forms the apex of the heart, while the bulbus cordis forms a long irregularly tubular structure which lies to the right of the ventricle and then above it. It communicates with the ventricle by a slightly constricted orifice, and passes onwards to bend up into the conus arteriosus.

The bulbus cordis is a chamber of the heart whose wall is formed by myocardium, and which in animals such as the dogfish carries semilunar valves internally. In the embryo it is lined by a tissue from which valves are afterwards formed. The ventricle and bulbus are separated by a long oblique groove—the bulbo-ventricular groove.

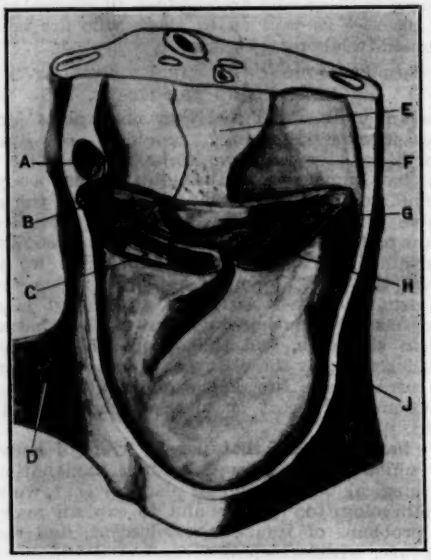
The atrial, or auricular, portion of the heart lies dorsally and in a cranial direction, and only small portions are seen from the front. The dorsal view of the heart shows the large single atrium and the sinus venosus opening into its right portion, after receiving the great veins. Even at this stage a pulmonary vein is present which opens into the atrium to the left of the sinus venosus. The atrial canal lies entirely on the left side.

Internal Structure.

At this stage of its development the heart wall consists of two distinct layers—an endocardial tube, invested externally by myo-epicardial wall. These two layers of the wall are in some parts widely separated, the endocardial tube forming a very narrow tube in the interior of the space included by the myo-epicardial wall. (Fig. 2.) The space between the two tubes is filled by an extremely delicate reticulum derived from the endothelial tube. In the atrial canal and in the bulbus the greatest interval is found between the two walls. In the sinus venosus, atrium, and lower portion of the ventricle the lumina of the two tubes correspond, and the myo-epicardial wall is lined by the flattened endocardium. Fig. 2 shows the relative size of the two tubes in the bulbus cordis region. Horizontal section of the model shows the relative position and size of the chambers. (Fig. 3.)

The myo-epicardial wall forms a continuous sheet, and extends without interruption from the sinus venosus to the bulbus cordis. The cells forming it already show some fibrillation, indicating their transition into contractile muscle cells. The veins entering the sinus venosus have no definite muscular walls; they are merely endothelial-lined spaces

FIG. 2.



Internal structure of Fig. 1. A, Right duct of Cuvier (cut). B, Sinus venosus. C, Endothelial tube of bulbus. D, Amnion. E, Dorsal mesentery of heart. F, Dorsal wall of body cavity. G, Auricle (atrium). H, Myo-epicardial wall of auricle. J, Pericardium (divided).

containing blood. The myo-epicardial wall is thickened in the ventricle and in the lower part of the bulbus, and already trabeculæ are present in those regions. The endothelial tube also forms a continuous wall, the lumen of which is dilated at intervals.

Valvular apparatus.—The sinu-atrial junction is guarded by a valve, consisting of a single flap, formed by an infolding on the right side of the sinu-atrial junction—the right venous valve. (Fig. 3.) There is no valvular apparatus either at the atrio-ventricular junction, nor in the ventricle and bulbus, unless the loose connective tissue which separates the endothelial tube and the myo-epicardial wall in these two regions has some such action.

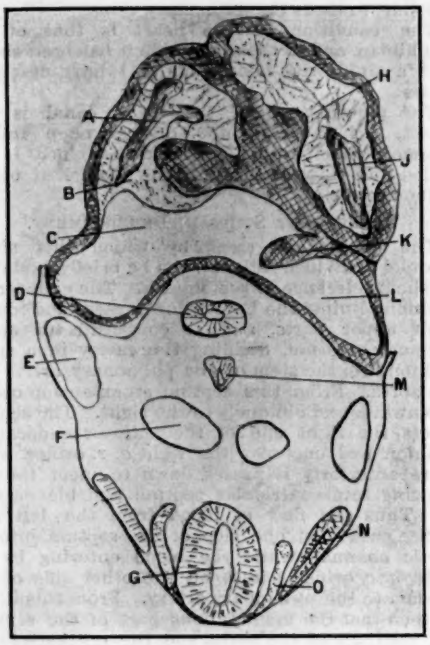
The atrial wall is infolded slightly on its anterior and cranial aspect, apparently from the pressure of the conus arteriosus, and this infolding is the earliest indication of the vertical septum which later on divides the atrium into two halves.

Mechanism.

There is no evidence of the formation of any specialised tissues in the wall, and the mechanism of the heart at this stage consists in a rhythmic peristaltic contraction which begins at one end of the muscular tube, in the sinus venosus, and passes thence along the wall to the arterial end.

If we seek in the animal kingdom for a comparison with a heart at this stage we find it in the dogfish, whose heart consists of exactly similar chambers, occupying very much the same relative

FIG. 3.



Transverse section of three to four weeks embryo. A, Endothelial tube in auricular (atrial) canal. B, Delicate connective tissue reticulum. C, Cavity of auricle (atrium). D, Lung bud. E, Left duct of Cuvier. F, Left dorsal aorta. G, Spinal cord. H, Connective tissue reticulum of bulbus. J, Endothelial tube of bulbus. K, Right venous valve. L, Sinus venosus. M, Œsophagus. N, Somite. O, Neural crest.

position, and resembling very closely in all details the corresponding parts in the young human embryo. The nature of the circulation which can be carried on by a heart of this kind is of the simplest character—namely, one in which there is a single circulation, of what may be called the "venous type," through the heart, for the heart in the fish has merely to drive the blood to the gill arches, where it is oxygenated and whence it passes to the rest of the body.

It may be stated with assurance that at this stage of development there is no question of the existence of nerve control. There is no sympathetic system, and the cranial and spinal nerves have not developed beyond the most primitive stage, in which the neural tube has a neural crest on each side, but has no ventral roots growing out from it.

HEART OF EMBRYO 6 MM. IN LENGTH.

From the stage at which the heart is a continuous tube I now pass to the next stage of its development, in which a subdivision of the primary chambers is occurring.

The model shows you the heart of an embryo 6 mm. in length, or approximately six weeks old. The external form of the embryo shows that at this stage the limbs are beginning to appear. The model of the heart has been reconstructed at a magnification of 100 diameters. (Figs. 4, 5, and 6.)

The anterior view shows a large bulbo-ventricular chamber, divided partly into right and left halves by an indentation on its lower margin. From the right half of this chamber the distal portion of the bulbus cordis ascends vertically and passes into the conus arteriosus. The atrium (or auricle) has expanded, and its right and left wings appear on either side of the ascending stem.

Arrangement of Chambers.

The arrangement of the chambers is as follows. (Fig. 8.) The sinus venosus, now relatively reduced in size, opens into the right posterior wall of the atrium by a pouting slit-like orifice with right and left margins. It is very like the ileo-cæcal junction, and from the upper border of the orifice a fold passes vertically in the atrial wall, like the retinacula of the ileo-cæcal value. The atrium is incompletely divided into right and left halves by a vertical septum—septum primum—which is perforated at its upper dorsal portion to form the secondary foramen ovale. The atrium is of large size, and throughout the heart there is an extraordinary difference between the size of the chambers and the size of the communications which connect them.

The atrio-ventricular canal is short, and is now divided into a right and a left aperture by the fusion of its upper and lower boundaries in the centre, leaving on each side a small orifice, the right and left atrio-ventricular orifices. (Figs. 7 and 8.) This division has been effected by the development of two large endocardial cushions, of which I shall say more subsequently.

The ventriculo-bulbar chamber is incompletely divided by a septum growing up from below, and from its right upper angle the bulbus cordis ascends. The proximal portion of the bulbus is lined by two large endocardial cushions which pass for some distance down into the ventriculo-bulbar cavity (Fig. 8), while in the distal portion there are four such swellings placed around the circumference of the tube. It must be noted that the muscular wall of the whole organ is still continuous throughout, but changes are occurring in it.

In the division of the atrium and the imperfect division of the ventriculo-bulbar chamber, the condition of the heart resembles that of the amphibian, in which there is a morphological division of the auricle, and a functional subdivision of the ventricle and bulbus, in response to the need for carrying on both a venous (pulmonary) circulation and an arterial, left-sided, systemic circulation.

Minute Structure.

The chief interest in the structure of this specimen, from the standpoint of its functional activity, lies in the regions of the sinus venosus and the atrial canal.

1. *Sinus venosus.*—The sinus venosus opens into

the atrium by a narrow slit-like orifice, whose characters have already been described. The structure of the sinus wall shows a distinct modification in the appearance of the sinu-atrial node. In the upper part of its right wall a well-marked thickening is found, and the histological features of this thickening show that it is not of the same structure as the other portions of the wall. Furthermore, at the sinu-atrial junction a distinct vessel is found lying in the wall, and around it is the modified tissue. It may be pointed out that the position of the sinu-atrial node can be identified in the fully developed heart most readily by the existence of a distinct vessel which traverses it. There can be little doubt that the appearances found in the present specimen indicate the earliest formation of the sinu-atrial node as a modification of the tissue forming the wall of the sinus. (Fig. 7.)

On the left wall of the sinus opening an endocardial cushion is found, and the tissue of the sinu-atrial node appears to pass in the dorsal wall of the sinus towards this cushion. The tissue composing the node consists of rounded cells with large, round, deeply staining nuclei. The adjacent cells of the muscle wall of the atrium and sinus on the other hand, are spindle-shaped, and the cell substance is fibrillar and their nuclei are elongated.

2. *Atrial canal.*—The atrial canal is much modified by formation of endocardial cushions. In the earlier specimen this canal was lined by the delicate connective tissue reticulum all round. In place of that former lining, two large masses of connective tissue are present, situated one anteriorly or above and the other posteriorly, and two smaller cushions are making their appearance, one on the lateral side of each of the *a.-v.* openings. (Fig. 7.) The larger cushions are not confined to the region of the canal, but the anterior passes to the lower border of the septum primum, while the posterior one passes in the floor of the atrium towards the sinu-atrial orifice.

Above the atrial canal two pulmonary veins are found passing to the left atrium. Where they approach the atrial wall the muscular coat of that chamber is continued on to these veins, but a considerable part of the atrial wall is at this level composed of connective tissue, and not of muscle. The superior, right and left walls of the atrial canal are intact—that is, they consist of a sheet of definitely muscular tissue, which passes from the atrial wall to the wall of the ventricle. The inferior (posterior) wall is also complete, but its internal surface, in contact with the posterior endocardial cushion, is very irregular. An inner and outer layer can be recognised; between them is a loose connective tissue. (Fig. 9.)

This formation apparently precedes the appearance of tissue which can be definitely recognised as "bundle" tissue, and it occurs in the position in which the node and proximal part of the bundle are laid down. In embryos slightly more advanced than this specimen a bundle of fibres, staining somewhat deeply, is found occupying this position. It can be identified from the surrounding tissue by its staining properties. Whether it is an ingrowth into the reticular tissue described here or is derived by transformation of the reticular tissue I am unable to say. From the evidence presented of the local formation of the sinu-atrial node I am inclined to think that the atrio-ventricular node and bundle are also formed locally.

The external layers of the posterior wall of the atrial canal can be traced onwards to the upper portion of the muscular interventricular septum.

Mechanism.

It is interesting to note what the mechanism of the heart at this stage is.

The muscular coat is continuous, and no doubt the contraction is largely rhythmical in character. The node in the sinus wall constitutes a starting point for the contraction, which from that point sweeps onwards over the muscular wall of the atrium, atrial canal, and ventricle. But now a pulmonary circulation is definitely established, pulmonary veins open into the left division of the atrium, and it is essential that the contraction of the mouths of these veins should occur as the earliest stage of atrial contraction to prevent blood being driven back along them. The necessity for this probably affords the explanation of the extension of the sinu-atrial nodal tissue to the left side, towards the pulmonary veins.

The condition of the heart is that of the amphibian, and in the amphibian it has been shown that a sinu-atrial node such as I have described exists.

The musculature of the atrial canal is still intact, and the two *a.-v.* orifices open into a common chamber, from which the blood is expelled by a single orifice into the distal half of the bulbus cordis.

SUBSEQUENT STEPS IN DEVELOPMENT.

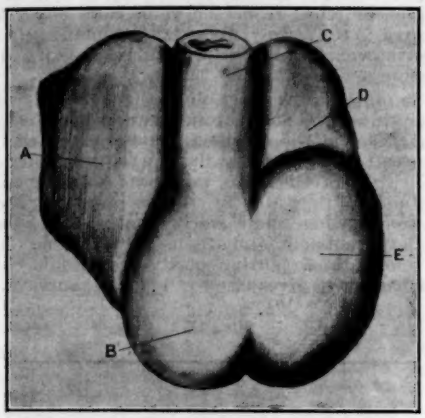
The subsequent steps by which this single channel is divided into two can be briefly explained by short reference to the figures. The endocardial cushions lining the bulbus cordis meet and fuse in their upper parts, and so constitute an aorto-pulmonic septum, dividing the cavity in a spiral fashion into the stem of the pulmonary artery and the aorta. From this septum an extension occurs downwards and obliquely to the right. The septum meets the right end of the anterior endocardial cushion and encircles the right *a.-v.* orifice, while more anteriorly it passes down to meet the upgrowing interventricular septum and blends with it. Thus the flow of blood from the left *a.-v.* orifice passes on one side of the septum into the aortic channel, while the blood entering by the right *a.-v.* orifice passes on the other side of the septum to the pulmonary artery. From this it will be seen that the membranous part of the septum, the vestibule of the aorta, and the entrance to the pulmonary artery are all formed from the downgrowth from the bulbus septum.

It is not my purpose here, however, to describe in detail the changes which are associated with the formation of the valves of the heart beyond saying that the *a.-v.* valves are formed from the endocardial cushions which surround the *a.-v.* openings and which project into the ventricles, while the semilunar valves of the aorta and pulmonary artery are formed from endocardial cushions in the distal part of the bulbus cordis.

HEART OF EMBRYO 20 MM. IN LENGTH.

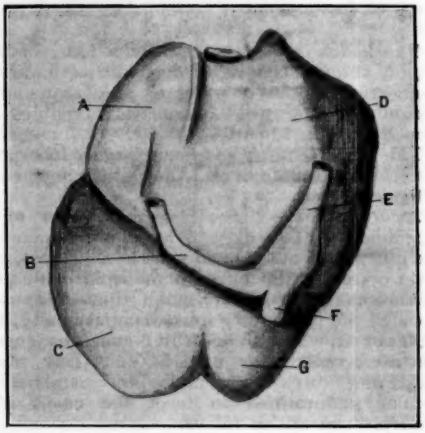
I now pass to the next stage of the development of the heart, in which the bulbus cordis, in its distal part, has become completely divided into pulmonary artery and aorta, and the right and left ventricle are separated from one another by the completion of the interventricular septum from above by a downgrowth from the septum of the bulb. At this stage the lungs are more fully developed, and the specimens I show are from an

FIG. 4.



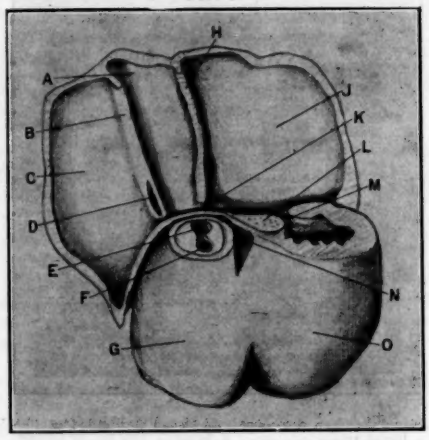
Reconstruction of heart of human embryo about six weeks old. A, Right auricle (atrium). B, Right ventricle. C, Upper part of bulbus cordis. D, Left auricle (atrium). E, Left ventricle.

FIG. 5.



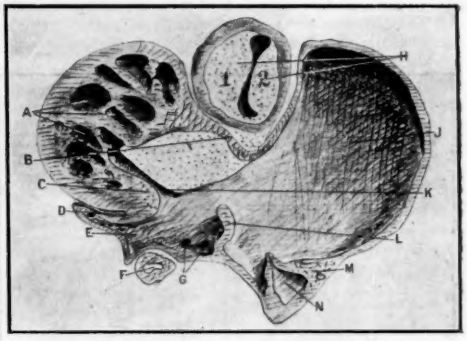
Same as Fig. 4, viewed from the back. A, Left auricle (atrium). B, Sinus venosus. C, Left ventricle. D, Right atrium (auricle). E, Right anterior cardinal vein. F, Right posterior cardinal vein. G, Right ventricle.

FIG. 6.



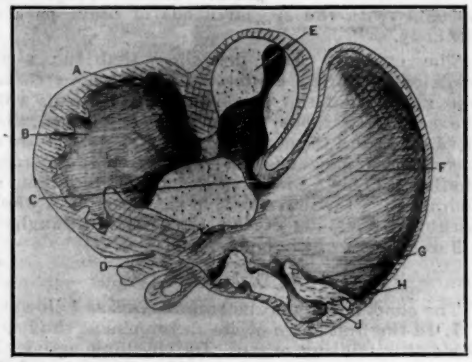
Interior of same heart viewed from the front. A, Intersepto-valvular space. B, Septum spurium. C, Right auricle (atrium). D, Opening of sinus venosus into auricle. E, Aortic division of cavity of bulbus. F, Pulmonary division. G, Right ventricle. H, Interauricular septum (septum primum). J, Left auricle (atrium). K, Communication between R. and L. auricles (foramen ovale primum). L, Endocardial cushion. M, Left a.-v. orifice. N, Bulbo-ventricular groove. O, Left ventricle.

FIG. 7.



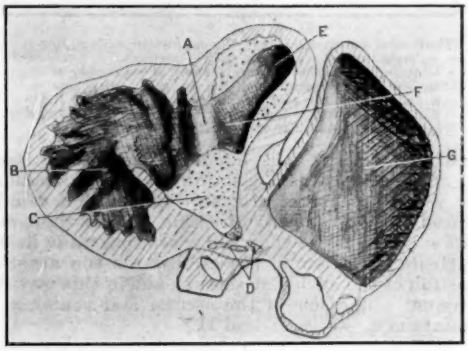
Horizontal section of heart (see Fig. 4). 1 and 2, Endocardial cushions in bulbus cordis. A, Trabeculæ of left ventricle. B and D, Continuity of auricular and ventricular wall. C, Lateral endocardial cushion. E, Left auricle. F, Left horn of sinus venosus. G, Pulmonary veins. H, Endocardial cushions. J, Right auricle. K, Left a.-v. orifice. L, Septum primum. M, Sinu-atrial node. N, Sinus venosus.

FIG. 8.



Horizontal section at a lower level than Fig. 7. A, Interventricular septum. B, Left ventricle. C, Right a.-v. orifice. D, Left auricle, lowest part. E, Endocardial cushion of bulbus. F, Right auricle. G, Right venous valve. H, Sinus venosus. J, Sinu-atrial node.

FIG. 9.



Horizontal section at a lower level than Fig. 8. A, Interventricular septum. B, Left ventricle. C, Endocardial cushion of a.-v. orifice. D, Trabecular formation in atrial canal. E, Pulmonary division of bulbus. F, Aortic division of bulbus. G, Right auricle.

embryo of 20 mm. length, or about the eighth week of development.

Structure.

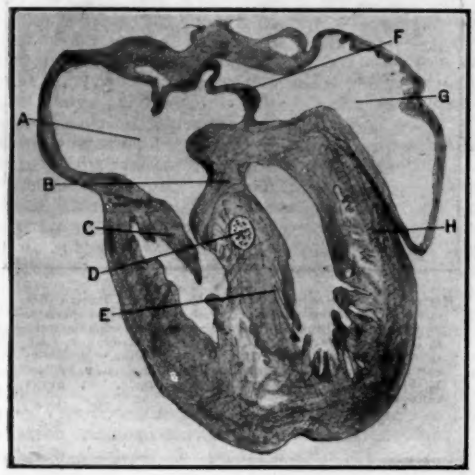
The heart is now practically a four-chambered organ, though the right and left atria are still connected by the opening of the foramen ovale secundum, and in its shape it resembles more closely the adult heart.

The sinus venosus has been largely incorporated into the right atrium, and the pulmonary veins are fully developed.

Atrial canal.—The atrial canal can still be recognised as the narrow band which surrounds the junction of atrium and ventricle. The epicardial layer overlying the original muscular wall of this portion has become very much thickened and has invaded the underlying muscular tissue and largely replaced it. The endocardial cushions surround the atrio-ventricular orifices, and their margins projecting into the ventricular chambers have become undermined to form the cusps of the tricuspid and mitral valves.

The aorto-pulmonic septum has grown down, and fused with the right margin of the anterior endocardial cushion and also with the upper margin of the interventricular septum. At the junction of the two parts, the reticular tissue noticed in the former specimen, and derived from the posterior wall of the atrial canal, has now developed further

FIG. 10.



Horizontal section of heart of 20 mm. human embryo (seven to eight weeks). A, Right auricle (atrium). B, Auriculo-ventricular junction. C, Marginal cusp of right *a*-*v*. orifice. D, Auriculo-ventricular bundle, in ventricular septum. E, Interventricular septum (muscular portion). F, Inter-auricular septum, septum primum. G, Left auricle (atrium). H, Muscular wall of left ventricle.

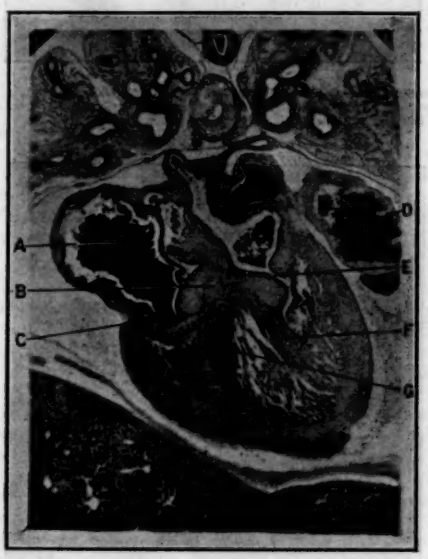
and encloses the *a*.-*v*. bundle. The bundle itself forms a compact, darkly staining mass, surrounded by a loose layer of areolar tissue, and it can be traced in a downward direction to the right and left surfaces of the ventricular septum, while in the opposite direction it passes towards the anterior portion of the auricular septum, and in this way the original connexion of the atrium and ventricle is maintained. (Figs. 10 and 11.)

Mechanism.

The mechanism at this stage is now practically that of the adult heart. The interior of the right atrium is subdivided by partial septa, so that the current of blood from the vena cava superior is directed to the atrio-ventricular foramen, while that from the vena cava inferior is directed more to the foramen ovale.

The muscular contraction of the atria, originated in the sinu-atrial node can now sweep over the atrial chambers, and the impulse can be conveyed from the atrial wall to the walls of the two ventricles. The two ventricles can now beat simultaneously and not as they did in the original peristaltic movement, when the wave of contraction affected the left ventricle and then passed from it to the more distal portion of the ventriculo-bulbar chamber which gives rise to the right ventricle.

FIG. 11.



Horizontal section at a lower level than Fig. 10 (photograph). A, Right auricle (atrium). B, Auriculo-ventricular bundle. C, Auriculo-ventricular junction, muscle wall being broken down by connective tissue. D, Left auricle (atrium). E, Left *a*.-*v*. orifice. F, Muscular interventricular septum. G, Trabeculæ in right ventricle.

At this stage, too, the nerve connexions of the heart have been fully formed, and so the characters of the cardiac contractions can be brought into harmony with the special needs of other parts of the body.

The evidence does not show that the atrio-ventricular bundle is derived from nerve tissue, but rather that the connexions it possesses with the central nervous system are established after the bundle has formed, and that the nerves are of secondary importance in regulating the cardiac rhythm. They have rather the function of coördinating the movement of the heart as a whole with the demands of the circulation throughout different parts of the body.

CONCLUSIONS.

The conclusions may be summarised as follows:—

1. In the first stage of its development the heart is a self-regulating organ. Its rhythmic activity is shown by peristaltic waves of contraction which sweep over it from end to end, and at this stage it

possesses a continuous muscular coat. It is quite independent of the central nervous system.

2. In the next stage—i.e., when the primitive chambers are being divided—a new mechanism arises in the form of a node of specialised tissue situated at the junction of sinus venosus and atrium, which passes thence to the dorsal wall of the atrium and the region of the pulmonary veins. This is the first of the nodal tissues to appear, and is the precursor of the sinu-atrial node of the adult heart.

3. The *a.-v.* bundle and node make their appearance about the time of the further division of the chambers of the heart, as a bundle of fibres lying under the posterior endocardial cushion of the atrial canal, and extending from the atrial wall to the ventricular muscular septum. The evidence goes to show that this bundle is derived from the tissues in which it appears, and that from the first it is surrounded by a sheath of loose connective tissue. Fibres and cells from the central nervous system invade this bundle, and also go to other portions of the heart wall, but the intrinsic regulating mechanism appears to arise independently of the nervous system, and is connected only secondarily through that system with other parts of the body.

THE DIAGNOSIS OF APPENDICITIS.

BY WILLIAM H. BATTLE, F.R.C.S. ENG.,
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THERE is too much tendency when considering the diagnosis of this disease to forget that it varies extremely in its manifestations, and that it must be regarded from various standpoints according to its mode of onset and the stage to which it has advanced when first seen by the skilled observer. It is not advisable to labour the subject; indeed, from the number of communications which appear on appendicitis it is almost necessary to apologise for anything likely to add to the literature of that disease, and in order to avoid any unnecessary elaboration I will put forward briefly a few points which may be useful. It will be best to make a classification into (1) acute appendicitis; (2) appendicitis which has ended in localised suppuration; (3) appendicitis with spreading inflammation of the peritoneum; (4) cases in which there is appendicitis with suppuration, but in which the defensive barriers have been broken down and the pus suddenly and generally diffused; and (5) recurrent attacks. It is the first of these to which I intend to limit my remarks.

Acute Appendicitis.

In acute appendicitis, limiting the term to acute inflammation of the appendix seen within the first 48 hours, there will be a variation in the symptoms in different individuals according to age, sex, position of appendix (pelvic, iliac, retrocæcal, outer side of cæcum), nature of the lesion in the appendix, and whether the attack is a first one or not. The amount of pain varies; it may be severe though transient, referred to the iliac fossa, unaccompanied by appreciable fever or more than a temporary increase in the pulse-rate. There may be but little tenderness, and that of short duration, yet at the removal of the appendix (if this is done soon) the surface may be coated with lymph. At other times the patient may call out with pain, having been awakened from sleep, and becomes quite collapsed, so that the administration of stimulants is necessary to bring him round. This pain may continue for hours and then stop suddenly or pass off gradually. It differs widely, then, in intensity. Most agree that it is bad. Usually it is referred to the region of the umbilicus and passes later to the right iliac fossa, where it becomes localised. When the appendix is in the pelvis the pain is less clearly defined, but is said to be "low down"; it is often increased by pressure on the right lower rectus, which is rigid. Vomiting is usually present, coming on soon after the onset of the pain. It does not always continue for long, but if it does so the attack is probably of a severe nature. In many attacks of appendicitis there is no vomiting, but there is almost always a feeling of nausea. There may be no shock or collapse, but in some instances this may be very marked.

To these symptoms there are added those of fever—a quickened pulse and respiration and a rise of temperature, mostly to 101–3° F., but it may be much higher (106°). The patient looks ill, has a furred tongue and foul breath, whilst the bowels are usually confined; in severe cases diarrhœa is common. Even in the more acute cases the tongue may be quite clean. Examination of the abdomen shows diminished respiratory movements, chiefly in the hypogastric region. It feels stiff and may be rigid, especially about the lower part of the right rectus, which is doing its duty of guarding the inflamed appendix from disturbance. Tenderness may be widely spread, but is most easily elicited on pressure over the right iliac fossa, or if the appendix is in the pelvis on rectal or vaginal examination. Frequency of micturition and dysuria are present when the inflamed appendix is in the pelvis.

It is very seldom that we can find any tumour in the iliac fossa within 24 hours of the onset of an acute attack; the rectus muscle prevents even a distended appendix of considerable size from being felt; there is often a sense of fulness underneath the muscle, especially if the appendix is retrocæcal. An enlarged appendix may, however, be felt when the patient is under an anæsthetic. A large number of these acute attacks luckily undergo resolution, the pain subsides, the temperature falls, the pulse-rate diminishes, and convalescence begins at the end of two or three days. As the rigidity of the rectus muscle diminishes, a swelling is felt about the appendix which indicates a localisation of the inflammatory process, and the illness is, for the time, practically over. In a few days more this swelling has quite disappeared. Unless the medical man draws the attention of the patient to this swelling it is probably not noticed by him, and when questions are asked in a later attack as to a former swelling—a valuable point in the history—the patient does not know. And in most cases there is no history of rectal or vaginal examination sent with the case. Although the pulse and temperature may be normal the patient is not safe until the swelling has quite gone.

With the cessation of pain there may be a loss of the protective contraction of the muscles, although there is still tenderness in the region of the appendix. This sometimes occurs within 48 hours of the commencement, and may be wrongly regarded as a sign that the attack has subsided, being only of a mild character, yet on operation a gangrenous appendix may be found. The explanation may be that the appendix is shut in behind the cæcum or encircled by the omentum, for when it has given

way into the general peritoneum there is usually no relaxation of the muscles, and the pulse increases in frequency.

What I wish to emphasise is that attacks of acute appendicitis vary very much, and ideas of the gravity of a particular attack will vary somewhat according to experience. Regard any attack of abdominal pain with suspicion if with it there are fever, rigidity of muscles, and tenderness in the lower abdomen, especially if that tenderness is over Clado's point.

There may be quite another picture presented within the first 48 hours—that of a more severe storm which seems likely to hurry the patient into his grave before he can be relieved. The commencement may be a rigor, the temperature very high, the effect on the nervous system and on the heart profound, whilst the local signs of peritonitis quickly increase in severity and extent from hour to hour. In these cases there is no hesitation as regards operation; the patient's friends demand it, he is so very ill. The other cases also cry for early operation, but the cry is often unheeded because the receiver is not trained to messages pitched in the lower key. We should be all agreed of the need for operation in all cases as soon as possible. It is in the interest of the patient that it should be done. If we could cut short an attack of typhoid fever by removing the appendix we should do it at once in every case, and be very glad to do it. A neglected attack of appendicitis may be more deadly than one of typhoid and far more distressing. Last year there was a good deal of discussion in the medical world as to the need for immediate operation—at all events within the first 48 hours: there were few dissentient voices amongst the surgeons who expressed opinions. Most had settled this question long before, but the general agreement expressed may have helped some who were uncertain to make up their minds finally in favour of early operation. Another question which arose from this was whether a surgeon could give an opinion of any value as to the nature of the pathological change in the appendix on which the attack depended. I have contended that he can do so in a large number of instances, not always, because it is often quite impossible to get the real history of the case, or the signs and symptoms are obscure. In this respect the surgeon is much better placed than the physician, for the former sees the case and examines the appendix when removed, whilst the latter rarely sees the appendix, and very often is not told of the pathological changes which were found at the operation. I did not see Mr. Edmund Owen's letter[1] in which he denied the accuracy of this statement until long after it had appeared in THE LANCET, therefore there did not seem any urgency for a reply when I did so. The essential thing, need for early operation, had been granted, the other which was of far less importance could wait. When I wrote my original letter I had in my mind three consecutive cases of operation in private in which the state of the appendix had been stated correctly, and after reading Mr. Owen's letter I took the next series during an emergency week at St. Thomas's Hospital. Operation was successful in all. The cases which were seen in private were as follows.

CASE 1 (seen with Dr. A. Charpentier and Dr. F. E. Walker).—A boy, aged 6, who complained of a sudden abdominal pain in the early morning of the previous day. He was seen at 5.30 P.M., and during the day had suffered from severe abdominal pain and vomiting. His pulse had been rapid all the day and was still the same—120. The temperature had been high—102–103° F. The boy was breathing rapidly and his alæ nasi were working. He was quite intelligent and had a clean tongue; still, there was a look of distress about him. His abdomen was rigid, not moving with respiration, and there was some dulness in the right flank. A diagnosis of commencing peritonitis due to gangrenous appendix, which contained a concretion, was made. Operation was carried out as soon as possible. Appendix 4 inches. There was a gangrenous patch limited to the part surrounding a concretion. Thick very offensive purulent fluid about the cæcum and in the pelvis. All the forceps applied to the shortened meso-appendix came away before a ligature could be applied, but there was no bleeding, both arteries and veins being thrombosed. Drainage.

CASE 2 (seen with Dr. G. F. Cooper.)—A married lady, aged 28, who admitted that she had suffered from occasional attacks of abdominal pain, during which she had vomited at times, but denied that she had ever had appendicitis, was seen at 5 P.M. She had been awakened with abdominal pain on the previous morning and this continued all day, but was not very bad until night, when there was a sudden increase in it with vomiting and a rapid pulse. She was given morphia and was still showing the effects of it, but was better in some ways, the temperature being 100° F. and the pulse 100. There was some tenderness of the abdomen, but not much rigidity; there was also resistance with a more generalised tenderness spreading to the left. The tongue was dry, the bowels confined, and there was slight general distension of the abdomen. Appendix 4½ inches, irregularly enlarged and acutely inflamed. There was a constriction about 1½ inches from the proximal end with dilatation beyond, which had not ruptured. It was full of offensive purulent fluid. There was also a concretion, which was pressed to the narrowed part of the canal, and the mucous membrane over it was gangrenous, but had not yet yielded. There was some free fluid in the pelvis. As the appendix was removed intact it was not considered necessary to drain the wound.

CASE 3 (with Dr. Frank Deas and Dr. James Scott).—A married lady, aged 35, giving a history of two previous attacks of appendicitis five months and three weeks previously respectively. After "a party" on the previous night she had felt some uneasiness in the abdomen, and at 10 o'clock next morning had severe pain in the abdomen which lasted for some hours and then ceased rather abruptly. She vomited twice. When examined there was no pain, but the surface of the abdomen was bright red from the application of fomentations. There was tenderness in the iliac fossa with some muscular rigidity, but she could draw a full breath without pain and was not distended. The pulse was 140. This was not regarded as a serious sign because she was neurotic and very much afraid of operation, having lost a favourite brother after an operation for appendicitis. A diagnosis was made of perforation of the appendix beyond a stricture, the stricture being towards the distal extremity. This opinion enabled us to postpone operation until after removal to the Cottage Hospital, a matter of great importance as the house was new, not yet fully furnished, and badly lighted from an operator's point of view. Appendicectomy was performed at 10 o'clock next morning. Appendix 5 inches long; strictured about an inch from the tip; dilated beyond and perforated at the tip, which was adherent to a coil of bowel. There was very little free fluid.

Three patients were operated on in succession during a night in October, 1913, and the following are brief accounts of their cases.

CASE 4.—The patient was 8½ years old. The illness had begun two days before with a dull pain in the right side. The pain grew worse next day, and before admission was very bad and localised to the right iliac fossa. The bowels acted after castor oil. The patient had vomited once the night before admission. The temperature was 101° F. and the pulse-rate 120. The lower abdomen did not move well. There was marked rigidity below the umbilicus and the greatest tenderness in the iliac fossa. There was dulness in both flanks. The patient was lying on his back with the knees flexed, and was evidently in great pain. An incision was made through the right rectus. There was offensive

[1] THE LANCET, June 21st, 1913, p. 1762.

fluid in the peritoneum, but to no great amount. Appendix 4 inches, large, retrocæcal, adherent, and much inflamed generally. Two concretions were present, and over these gangrenous patches which had given into the general peritoneal cavity. Drainage through the wound brought foul-smelling fluid away for some days. Ten days after operation the pulse was still over 100.

CASE 5.—The patient was 14 years of age. There was no history of previous illness. Two days previously, in the morning, he had felt pain, localised at first in the right iliac fossa, but spreading later across the lower abdomen. He continued work till the morning of admission, when he was obliged to remain at home because of the severity of the pain. He was flushed and looking very ill. The abdomen moved very little. There was general rigidity of the muscles, most marked on the right side. Tenderness was general, chiefly over McBurney's point. On examination per rectum the patient complained of being tender on the right side, but nothing abnormal could be felt. No change in percussion note. The temperature was 98° F. and the pulse 80. The appendix was large and acutely inflamed, lying to the outer side of the cæcum, resembling in size and shape an adult human thumb. A concretion was present in the terminal part over which the mucous membrane was becoming gangrenous. No drainage, although there was some thin fluid in the pelvis.

CASE 6.—The patient, aged 16, gave a history of one previous attack of pain in the right iliac fossa for which he had been treated medically elsewhere. Twelve hours before admission he had complained of pain in the right iliac fossa, but had not been sick. The abdominal wall was not rigid or tender anywhere excepting over McBurney's point, where there was slight tenderness. There was no distension and no local swelling. The pulse was 110. The appendix was 3 inches long and twisted. The meso-appendix was bound down by adhesions of old standing, giving the appendix the appearance of being partly strangled. There was lymph on the surface, and an acute inflammation of the distal end with thickening. No drainage.

In Case 6 the diagnosis was not quite correctly given. It was thought that a strictured appendix was the cause of the symptoms, but as a matter of fact the appendix was twisted, and this twist produced an obstruction to the lumen, the effect being that of a stricture. Another case may be given in confirmation of the fact that it cannot always be said what is the correct state of the appendix, notwithstanding the certainty that there is inflammation of it.

CASE 7.—A man aged 21 came into hospital during the same week as the subjects of the last three cases with a history of an attack of sudden pain at 2 o'clock in the morning. By 4 o'clock the pain was so violent that he decided to come up to the hospital, and he vomited several times on the way. He had never had any similar attack, and his bowels had acted the day before without medicine. The abdomen moved well on respiration, but he still complained of severe pain in the right iliac fossa. There was some tenderness over the appendix, with rigidity of the lower rectus. There was no distension, a pulse of 72, and a temperature of 98·4° F. Operation later in the day showed a thickened appendix attached to the lower part of the cæcum by inflammatory exudation. It was about 3 inches long. Inside was a patch of ulceration with a sloughing surface and thinned base, on which there were two bristles of small size, and a metallic concretion.

On the other hand, there are various acute diseases which render the diagnosis from acute appendicitis difficult and almost impossible, and from time to time some case is met with which adds to the list. Renal calculus has frequently given symptoms which have led to a wrong diagnosis, when in the right kidney, and when it has moved into the ureter, but a case of transference of symptoms from the left kidney to the appendix region is practically unknown; therefore the following case is important.

CASE 7 (with Dr. A. E. Godfrey).—The patient, aged 30, was seen on June 12th, 1912. She was suffering from an acute abdominal illness, and gave the following history. About four years previously she had a similar attack with pain in the abdomen, and was ill for 15 weeks. Two years ago she had a repetition of the symptoms, and suffered off and on for a year. She was under the care of a medical man who advised her to have the appendix removed. Five days ago she became ill again with pain in the right lower abdomen and vomiting. The pain continued, and two days later she again vomited. Dr. Godfrey saw her on the 10th, and found her complaining of pain in the same part of the body, with resistance to pressure and tenderness. The temperature was 102° F., and the pulse rapid. On the 12th there was still a temperature varying from 100° to 102°. She looked ill, had a furred tongue with offensive breath and pulse 100. The abdomen did not move well, and she complained of pain which was limited to the right lower part, where there were tenderness and rigidity of muscle. Nothing abnormal was found on examination beyond this, and rectal examination was negative. The bowels were constipated. In a day or two the symptoms subsided, but returned with severity, so she was sent to St. Thomas's Hospital on June 19th. The abdomen was then very tender all over, but not rigid. Nothing abnormal could be found. Temperature, 100·6°; pulse, 120; tongue still furred and breath foul; specific gravity of urine 1012, acid, heavy deposit of urates, no albumin. The appendix was removed; it was normal. Examination of the right side of the abdomen revealed nothing abnormal; the ovaries and tubes were healthy, and the uterus was retroverted. She vomited a good deal, almost continuously for two days, but the temperature came down to normal. On the 25th it was reported that the Widal test for typhoid was negative. On the 26th she was examined very thoroughly by the resident physician, who found no evidence of disease of the chest. The vomiting, which continued, appeared to be functional, whilst the temperature, which was still irregularly high, might have been due to a sore throat of which she was complaining. On this day she was removed to a small ward and placed in charge of special nurses. July 5th: The patient had ceased to vomit. General condition improving. Had been complaining of pain in her

Calculi of left kidney which produced symptoms resembling those of acute appendicitis.

right loin for some time. The urine was acid, with a slight trace of albumin, but with no blood; some pus cells were found. She continued to complain of pain in the right loin, so was sent to the X ray department to have the right kidney examined. The report was returned: "There are six shadows in the left kidney region. The right kidney is normal." This was on July 17th, and on the 23rd she was again X rayed. The same group of shadows were seen. She was still complaining of pain in the right side. There was also a change in the character of the urine, the specific gravity of which was 1015, pus being present with blood corpuscles in large quantities, and also epithelial casts. On July 24th the left kidney was removed. Examination had shown that it was full of stones and there was very little secreting tissue left. Its appearance is well shown in the illustration. It only measured about 2½ inches in length. The surface was somewhat

irregular but smooth, and the capsule non-adherent. The largest stone was lying in the pelvis and practically filled it. The smaller stones were scattered throughout the substance of the organ. At the upper end there was a small cystic space containing a rounded stone. After the operation the patient improved quickly, but even on August 3rd she still complained of occasional pain in the right side. She left on August 15th. From Oct. 28th to Nov. 12th she complained of pain accompanied with fever (temperature 101° to 102°) and sickness. The pain was along the course of the left ureter, where she had tenderness also. The ureter was examined in the X ray department, but nothing abnormal could be seen.

In the interesting address on Reflex Pains in Diseases of the Abdominal Viscera, by Mr. A. E. Maylard,[2] he refers to the occasional transference of pain in renal calculus to the opposite kidney. In this case there was not only a transference of the pain but a condition of fever, probably due to a temporary blocking of the renal pelvis, which for a time prevented the escape of pus into the urine. The combination of pain in the right side of the abdomen, tenderness over the iliac fossa, with rigidity of the muscles and fever, made the resemblance to an attack of acute appendicitis very close. The absence of any swelling in the abdomen, owing to the fact that the kidney was so small, or change in the urine during the attack rendered diagnosis impossible when first seen. At that period in the illness, had it been appendicitis, there should have been evidence of swelling either in the iliac fossa or in the pelvis on rectal examination; in the absence of this we did not feel justified in recommending an operation. Exploration was obviously required on a return of the symptoms.

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COMMON ERRORS IN THE TREATMENT AND DIAGNOSIS OF DIETETIC DISORDERS IN INFANTS.[1]

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ON thinking over the mistakes which I have made in the diagnosis and treatment of cases of illness in infants attributable in any way to dietetic causes, I am surprised to discover that a preponderance of these arose in connexion with disturbances of the motor functions of the alimentary tract rather than with disturbances of the digestive functions proper.

When an infant suffers from so-called indigestion we are very apt to think of undigested food and inactive or absent ferments, and we turn lightly to the evidence of chemical analysis and of naked-eye examination of vomitus or stools to supply the key to the situation. I do not wish in any way to belittle the value of the information thus afforded; but the point I would particularly emphasise is that a very large number of cases of so-called indigestion prove intractable to treatment because we fail to recognise that the symptoms are due to a perverted or incoördinated performance of the motor functions—a result dependent more on *habit* than on the particular qualities of the food which for the time being the infant may be consuming.

The neuro-muscular mechanisms which control the locomotion of food through the body are extremely complicated, and they are largely dependent for their efficient working, not only during infancy but during the whole of life, on the nature of their early experiences and education. Each link in the complicated chain of neuro-muscular coördinations which effects the locomotion of food through the alimentary tract, whether it be associated with the act of deglutition, with the rhythmical openings and closings of sphincters, or with the peristaltic contractions of muscles, is dependent on a delicate and complicated reflex, which is initiated in its due chronological order by the act which immediately precedes it, and thus for the harmonious working of the whole series one indispensable condition is the harmonious coöperation of the parts. It is quite true that errors in diet, and especially errors in diet during the very early days of life, may produce symptoms which we commonly call indigestion, but it must be remembered that these symptoms may be perpetuated as bad habits long after the cause which provoked them has ceased to exist. And thus it comes about that the series of mistakes in diagnosis and treatment which I propose to chronicle in this lecture will be mainly concerned with symptoms which, though originally produced by faulty methods of feeding, were wrongly ascribed to defects in the food and were wrongly treated by changes and alteration in the diet. There is only one cure for faulty habits of this kind, and that is re-education.

Very shortly after I was qualified I had the good fortune to see a case which was then going the round of the children specialists. It was a case of intractable vomiting in a very young baby, the cause of which was as obscure as the treatment adopted was unsuccessful. Everybody who saw the case suggested as a basis of treatment some radical change in the character of the food. In spite, however, of unremitting attention the infant died when about six weeks old. At the necropsy the œsophagus was found to be enormously dilated with irregular thickenings of the muscles. At its junction with the stomach the muscles were extremely hypertrophied, and the lumen showed a marked degree of atresia. In many respects the dilated œsophagus with its sacculations and thickenings had analogies with the conditions we find in cases of congenital dilatation of the colon, or Hirschsprung's disease. Whether in this particular case the dilatations of the œsophagus were of congenital origin, or whether they were secondarily acquired as the result of spasm of the cardia or incoördination of the neuro-muscular mechanism concerned in the propulsion of food down the gullet, will never be known; but reviewing the whole history of the case as I now remember it I cannot help inclining to the view that this was a case of cardiospasm in an extreme form.

Of recent years attention has been directed both by Lust[2] and Aschenheim[3] to a condition in infants which has been called "rumination," and in which a very intractable form of regurgitation or vomiting persists. It is supposed to be due to some abnormal or perverted coördination of the neuro-muscular mechanisms of the œsophagus. I have seen one or two cases which I now conclude were examples of this kind of rumination, but which at the time I did not recognise as such. Further, I am disposed to think that the essential pathogenesis of cases of rumination such as those described by Lust and Aschenheim, as well as of cases of Hirschsprung's

[2] Brit. Med. Jour., vol. i., p. 616, 1910.

[1] An abstract of a lecture delivered at the Medical Graduates' College and Polyclinic, Chenies-street, London, W.C., on Feb. 19th, 1914.

[2] Monatschrift für Kinderheilkunde, 1911, vol. x., No. 6.

[3] Zeitschrift für Kinderheilkunde, 1913, vol. viii., p. 161.

disease, and of the case of dilatation of the œsophagus already referred to, is of a comparable, if not of an identical character in each instance—that is to say, that all these conditions are due to ill-coördinated muscular functions. I cannot understand otherwise how it can be that such marked hypertrophy can coexist with such marked dilatation. It seems to me that nothing else than persistent spasms in certain sections or areas can account for the hypertrophy in one part and the dilatation in another. I believe that cases of cardiospasm in infants are much more common than is generally supposed, and that the few published cases in no way represent the true frequency of the condition. I am sure they are seldom diagnosed, and I now feel sure I have missed many myself.

Some little time ago I showed,[4] with Mr. Douglas Drew, at the Section for the Study of Disease in Children of the Royal Society of Medicine, a case which we then supposed to be one of congenital stricture of the distal end of the œsophagus. Subsequent events, however, proved that the stricture was probably functional, and not organic in nature, for Mr. Drew succeeded without any difficulty in dilating up the lower end of the œsophagus, and since then the infant has been able to swallow solids with ease, and the symptoms have practically disappeared.

Intractable vomiting is by no means uncommon in infants, and it may be due to obstruction to the onward flow of the food current at any point in the alimentary canal. The obstruction may be due to persistent muscular spasms or to other causes; but certainly, in my experience, pyloric spasm is one of the commonest causes, if not the most common, of vomiting of this kind. The difficulty of making a correct diagnosis in the days when we had no X rays was very considerable; but now, with the aid of a bismuth meal and the X ray screen, the detection of the exact point at which obstruction occurs is easy and accurate.

At the present time so much attention is given to pyloric stenosis, whether of the congenital or acquired type, that there is small risk of the condition escaping notice; indeed, in my judgment, it is diagnosed, and cures claimed, far more frequently than is justified by events. I remember the time, however, when no mention of the condition appeared in the text-books, and when its very existence was known only to a few individuals. The first case I saw was in the year 1895, when my old teacher, the late Dr. W. B. Cheadle, asked me to look after a case of his which was suffering from persistent and violent vomiting. Although we both recognised that the symptoms were due to obstruction in the neighbourhood of the pylorus, owing to the waves of contraction which passed from left to right across a greatly dilated stomach, and which were quite obvious to the naked eye, neither of us suspected hypertrophic pyloric stenosis during life, nor at the necropsy did we recognise that the condition was one of extreme interest and rarity. Mr. Jackson Clarke, then pathologist at St. Mary's Hospital, examined the specimen, and reported that the fusiform tumour which surrounded the pyloric orifice was not a neoplasm, but consisted of hypertrophied muscles only. Some years later (1897) I read an account of the disease,[5] written by Dr. H. Ashby, of Manchester, which induced me to inquire into the literature of the condition. I subsequently published my account of this case in the *Archives of Pediatrics*.[6] Placed in its chronological order, our case was the twenty-fourth to be described, but since that time an enormous number of cases have been recorded and a great literature has grown up round the subject.

Now, passing from symptoms due to incoördination of the neuro-muscular mechanisms of the upper reaches of the alimentary canal, concerning which mistakes in diagnosis are often made, to symptoms connected with the motor functions of the large and small intestine, I would preface my observations by saying that mistakes in the diagnosis of such conditions usually arise in connexion with one or other of the following symptoms: (1) diarrhœa, (2) constipation, and (3) colicky pains.

1. *Diarrhœa.*—This is often wrongly attributed to some indigestible quality of the food, when the true explanation is hypersensitiveness of the neuro-muscular mechanism concerned in the locomotion of food through the intestinal canal, a condition commonly known as lienteric diarrhœa. I see many cases of this kind in which change after change in the character and quantity of the food leaves the infant in exactly the same condition. In such cases a vicious and intractable reflex has been acquired which can only be cured by patient attempts at re-education.

I see many cases of diarrhœa with so-called undigested curds in the motions which are regarded as due to indigestion, but which are in fact due to starvation. Frequent dejections of this kind are often associated with debility which is due to inanition, for in starvation the mucous membrane of the bowel manifests, as it were, a paralytic secretion with frequent alvine discharges which to the inexperienced at once suggest some irritation due to food causes. The presence of so-called undigested curds in the motions is usually the misleading evidence on which the diagnosis is based. I have repeatedly demonstrated, by means of the "test-feed," that infants passing stools of this character are the victims of inanition, and that so far from obtaining food which disagrees, they obtain, as a matter of fact, no milk at all, or only a very small quantity, from the mother's breast. Even the fact that these so-called undigested curds of casein continue to appear in the motions when all milk is withdrawn from the diet, and when the infant only subsists on whey, egg water, or even water, does not appear to suggest to the sceptically minded that they have no more connexion with coagulated casein than they have with hard-boiled white of egg or any other substance with which they have a superficial resemblance. To prove their origin these so-called curds have been submitted to chemical analysis, and even to bio-chemical tests. They are known to contain considerable quantities of fatty acids, mostly in combination with calcium, forming in fact insoluble soaps. Further, they contain a small proportion of albumin, and a remainder which is of uncertain chemical composition but containing nitrogen in relatively the same proportion as occurs in casein. On this evidence, and on the evidence of the superficial appearance to small curds of coagulated casein, these white bodies have been regarded as the undigested remains of milk. But if a stool consisting mainly of these so-called curds is carefully washed out in a bowl of water and the little white balls are teased

[4] Proceedings of the Royal Society of Medicine, Section for the Study of Disease in Children, 1913, 33.

[5] Archives of Pediatrics, 1897, p. 498

[6] 1900, p. 241.

out and disentangled, they will be found to consist of coiled-up plaques of mucus, which when floated out in the water cannot possibly be mistaken for milk curds or anything else except mucus. The fact that soaps, fatty acids, albumin, bacteria, and calcium salts can be detected in these little white balls by chemical analysis in no way weakens the argument that they are the pathological products of the activity of the mucous membrane, and not the undigested remains of milk, for on similar evidence the mucous discharges from the nose or respiratory tract might be considered of milk origin, for their chemical analysis is the same.

I do not mean to imply, by the somewhat dogmatic statements above expressed, that milk residues do not at times appear in the stools and especially in cases of lienteric diarrhœa. What I mean is that these small white particles, generally about the size of a pea, which look like pieces of coagulated milk, and which are found in the stools of infants suffering from colicky pains, are really pieces of stringy mucus which have become partially inspissated and coiled up into tight balls by the peristaltic movements of the bowel. By teasing out and unravelling these little balls it is open to all to convince themselves of the truth of my contention. Further, such conditions, when treated on the ground that they are undigested milk, do not improve.

Diarrhœa, or at least the too frequent passage of dejections, is often attributed to some fault in the character of the food, when the true etiological explanation is that the hypersensitive neuro-muscular mechanisms of the bowel are stimulated into activity by some preceding event—as, for instance, by forcible sucking at a relatively dry breast or at some artificial nipple which is pierced with too small a hole. It must be remembered that although the locomotion of food through the alimentary tract is generally regarded as consisting of a number of independent phases, such as deglutition, intestinal peristalsis, or defæcation; nevertheless each independent neuro-muscular mechanism, whether it be of œsophagus, stomach, or intestine, is closely associated and bound up in a definite and correlated series, action or cessation of action in the one being the liberating stimulus for activity in the next. Thus violent sucking often initiates painful peristalsis or even lienteric diarrhœa, but such diarrhœa is not satisfactorily dealt with by changes in the character of the food.

2. *Constipation.*—Turning now to constipation as a symptom which is often, in an etiological sense, wrongly interpreted and wrongly treated, I may say that there are three common causes of constipation in infants, although the number of occasional causes is almost infinite. The common causes are: (1) dulling or disorganisation of the rectal reflex by previous over-stimulation and exhaustion of the nerve centres (purgative medicines, enemata, suppositories, and previously existing diarrhœas); (2) over-feeding, especially with fat; and (3) underfeeding (chiefly in the case of breast-fed infants). Inasmuch as these causes are in their etiology as widely separated as the poles, it is clearly most irrational to expect that constipation can be treated by any one uniform method—as, for instance, by the administration of castor oil, grey powders, or by increasing the percentage of the fat in the food.

Before we attempt to treat constipation we must discover the cause. I have certain stock questions with which I ply the mother in order to elucidate the actual cause of the constipation. They are as follows: 1. Are the motions hard or soft? 2. Are they large or small? 3. What remedies have you tried? 4. What food and how much have you been giving the baby? By means of these questions I can generally discover whether the rectal reflex has been tampered with by injudicious methods of stimulation, also whether the infant has been obtaining too much or too little food. If the variety of constipation does not fall under any of these headings I search for other causes.

As regards treatment, the cure of cases of constipation due to dislocation of the normal rectal reflex can only be effected by re-education—often a difficult matter and best promoted by massage and the teaching of a new reflex. This should be applied with absolute regularity every day.

Constipation due to excess of fat must be treated by a reduction in the percentage of cream in the case of artificially fed infants and by controlling the quantity of milk consumed in the case of breast-fed infants or possibly by dieting the mother. Formerly I used to treat a number of infants suffering from this variety of constipation by the routine administration of olive oil. Olive oil is of course invaluable in cases in which the infant is suffering from fat starvation, but it only aggravates the condition in the class of case I am now referring to. It was in consequence of the realisation of this mistake that I came to use petroleum as a lubricant in place of olive oil, and since this discovery, now some eight years ago, I have practically used no other form of aperient.

Cases of constipation due to starvation very seldom come under my notice in artificially fed infants, but they are very common among breast-fed infants of the lower classes. I could give details of dozens of cases which have been brought to my clinics, and which have previously been treated ineffectually with aperients and purgatives, but which have immediately improved when the want of food had been corrected.

3. *Colicky pains.*—Finally, I would say a few words about that common symptom of disturbed motor-function which is so often wrongly ascribed to food causes—namely, colic or wind. So-called colic or wind in infants is nearly always due to some spasm of sphincter or group of intestinal muscles which interferes with the normal locomotion of food through the alimentary system. Wind may indeed be actually retained in the stomach by spasm of the cardiac sphincter, but much more often the pain which is supposed to be due to wind is attributable to the arrest in spasm of the normal waves of contraction which pursue one another throughout the whole length of the intestine. The application of the bismuth meal and the X ray screen has revealed some very interesting examples of enterospasm in infants, which has produced troublesome symptoms the nature of which was not altogether clear. One of these cases was as follows: an infant at the Nursery Training School in Hackney had repeated attacks of screaming with serious and violent vomiting. The child was doing badly and losing weight. One day I happened to be at the school when one of these attacks was in progress, and chancing to place my hand on the abdomen I felt some very forcible waves of contraction passing across the upper part of the abdomen. As some of the symptoms were not altogether inconsistent with pyloric spasm, I admitted the infant into the Queen's Hospital and thoroughly investigated the case by means of bismuth feeds and X ray examination. When given a feed of thin

Benger's food thickened with 2 oz. of carbonate of bismuth the infant seemed in less pain and almost ceased vomiting. The interesting fact, however, was that the food, instead of experiencing a check at the pyloric valve, passed through this aperture unusually quickly, and continued to travel down the small intestine and through the ileo-cæcal valve in a perfectly normal manner and at a perfectly normal rate, but when after some six hours it reached the splenic flexure, here it appeared to encounter an unexpected check and the bowel wall lapsed into a condition of somewhat prolonged spasm. From this time forward the locomotion of the bowel contents was irregular, jerky, and spasmodic. Owing to this discovery, and taking advantage of the benefit which the large doses of bismuth seemed to confer on the child, I continued to give very large doses of bismuth combined with petroleum before each meal. The improvement in the infant was immediate; it at once began to put on weight, and within 14 days was returned to the school in a greatly improved condition from which it has not up to date relapsed. Bismuth combined with petroleum seems to exercise almost a charm on disordered peristaltic movements. This case appears to me to be instructive because it illustrates my point that symptoms which are really due to disturbances of the motor function of the bowel can easily be mistaken for symptoms due to inappropriate food, and as such be ineffectively treated. This particular case had been treated for weeks by modifications in the diet and by drugs directed to soothe the irritability of the stomach.

If I have given undue attention to the consideration of the diagnosis and treatment of symptoms referable to disturbances of the motor functions of the alimentary canal as distinguished from those connected with the actual digestion of food it is not because I belittle the importance of dietetics in the prevention and cure of such accidents. I recognise very fully indeed that in the first place these perverted motor functions are produced by wrong methods of feeding, often during the first few days of life. It is very easy to teach impressionable nerve centres incorrect or perverted reflexes which may have most disastrous results. To these perverted reflexes Pawlow has given the name *Bedingungsreflexe*, which may be translated as conditional or facultative reflexes; but by whatever name they are known I am sure that they play a leading rôle in the production of such conditions as rumination in infants, pyloric spasm, enterospasm, constipation, and even diarrhœa. They can only be cured by methods of re-education. It is consequently of the greatest importance to be able to distinguish symptoms which are due to defective digestion proper from those which are due to perverted reflexes, learned, perhaps, a long time previously, and for which at the time being there may be, in an etiological sense, no dietetic basis.

Harley-street, W.

ASYLUM WORKERS' ASSOCIATION.—The annual general meeting of this association will be held at 11, Chandos-street, Cavendish-square, W., on Wednesday, May 20th. The chair will be taken at 3 P.M. by the President, Sir John Jardine. The annual report will be submitted, officers elected, and presentations will be made of medals for long and meritorious nursing service. Matters of much importance to asylum workers will be discussed, and it is hoped that there will be a representative gathering of members and friends of the association.

A CASE OF SUB-TOTAL GASTRECTOMY
PERFORMED FOR CANCER OF THE STOMACH FIVE YEARS AGO.

BY C. MANSELL MOULLIN, F.R.C.S. ENG.,
CONSULTING SURGEON TO THE LONDON HOSPITAL.

IN May, 1909, five years ago, I was asked by Mr. F. Gordon Brown, of Finsbury-circus, to see, in consultation with him, a patient who had been suffering from epigastric pain accompanied by sickness for upwards of two years. She was 51 years of age and rather stout, though she had lost a stone in weight recently. The pain, which was very severe and never really left her, was referred to the mid-sternal region. Food relieved it but not completely. The vomiting had been growing more and more frequent. At first it consisted only of a watery fluid, but for some months past the fluid, towards the end, had been stained a reddish brown. Food was hardly ever returned. There was no history of melæna, but no examination of the fæces was made.

On examining the abdomen there was a tender area to the left of the middle line in the epigastric region, and once or twice an ill-defined, deep-seated hardness was felt there. No enlarged glands could be found. The patient had been for some time restricted to a diet of milk and lime-water with some relief, both as to pain and vomiting. A very guarded prognosis was given, chiefly because of the persistence and severity of the pain.

The operation was performed at St. Thomas's Home on May 8th, Dr. A. P. Gibbons and Dr. A. B. Howitt being present. The abdomen was opened in the middle line and a hard mass was felt at once in the wall of the stomach close to, but not apparently involving the pylorus. There were some enlarged glands along the greater curvature, but as there were no adhesions of any importance it was determined to excise all the affected portion. The gastro-hepatic and the great omentum were cut through and sutured, and the duodenum divided and closed. An incision was then made across the stomach, running from the right side of the œsophagus downwards and slightly to the left, so as to remove the whole of the stomach except a small portion at the cardiac end. The upper portion of this incision was closed with a double row of sutures; the lower end was sutured to the edges of an incision of corresponding length in the jejunum, so as to form a gastrojejunostomy. Two pints of saline were given subcutaneously during the operation, and five more partly subcutaneously, partly by the rectum, in the course of the next 24 hours. The patient was sick once 48 hours after the operation, bringing up some bile, but in other respects recovery was quite uneventful. She left the home on June 9th able to take ordinary light diet. By September she had regained her weight and was able to take all ordinary food without discomfort. Since then she has continued perfectly well and has resumed her work, leading a very active life.

The portion of stomach removed was sent to the Museum of the Royal College of Surgeons of England. There was a characteristic carcinomatous growth originating on the margin of an old chronic ulcer. Recurrence, of course, may take place yet, not along the lines of the incisions, but possibly in some outlying glands, or even in the liver. I have known carcinoma develop in supraclavicular glands as long as 14 years after the removal of the corresponding mamma. There can be no question,

therefore, that carcinomatous cells may lie latent for years until circumstances become favourable to their growth. But with this proviso, the operation may be said to have cured the patient, so far as any operation can cure a patient of cancer.

What proportion of cases of chronic ulcer of the stomach end by becoming carcinomatous is uncertain. That a very large number of cases of carcinoma of the stomach originate in chronic ulcers is not uncertain; and considering the ease of the operation (if the ulcer has not been left too long already so that it has eaten into the pancreas or other neighbouring organs), the good prospect of recovery, and the impossibility of deciding at the time whether the induration around a chronic ulcer is purely inflammatory, or malignant, or both, I believe that recovery would be as frequent, and that the subsequent standard of health would be higher and the duration of life longer if partial gastrectomy were performed in such cases instead of simple gastro-enterostomy. It is true the induration around a chronic ulcer sometimes disappears in a marvellous way after an operation, but in nearly all the cases in which this has been recorded there has been a recent attack of acute inflammation, often associated with perforation, grafted upon the old ulcer, and the induration has been largely due to this. The chronic ulcers to which I refer, and for which I consider partial gastrectomy to be preferable, are distinguished by their sharply defined and circumscribed outline. Induration such as this does not disappear, and is only too likely to become the seat of malignant disease. Complete removal ensures that the ulcer will cause no further trouble, and practically abolishes the risk of cancer.

Wimpole-street, W.

A PEDUNCULATED INTRABRONCHIAL TUMOUR (SARCOMA) CAUSING BRONCHIECTASIS.[1]

BY J. A. BRAXTON HICKS, M.D. LOND., M.R.C.P. LOND., D.P.H.,

ASSISTANT PATHOLOGIST TO WESTMINSTER HOSPITAL, ETC.

THE patient, aged 33, complained of cough, profuse expectoration, and occasional blood-spitting. Her family and personal history were unimportant, there being no history of tuberculosis or cancer in her immediate relatives. At the age of 20 she became a nurse at the Cheyne Hospital, Chelsea, and she had to leave there in 1900 on account of a "severe attack of anæmia." She next became a school nurse under the Poor-law authorities at Parsons Green, Sutton, and Hanwell. At Parsons Green she had a transient attack of pleurisy; at Hanwell she had her first attack of hæmoptysis. She then left off nursing and became first an out-patient and then an in-patient of the Brompton Hospital. Next she was an out-patient and in-patient of the Mount Vernon Hospital, and later entered the Hampstead and Northwood Sanatorium. During this time she had had numerous slight attacks of hæmoptysis, but while at Northwood she had such a severe attack that her life was despaired of, although she eventually recovered. In 1902 she was for a while a private patient of Dr. F. T. Hebb, to whom I am indebted for the notes of the early stages of her illness. Her condition for the next eight years was variable, but slowly downhill, and in May, 1910, she was admitted to the Westminster Hospital under the care of Dr. R. G. Hebb, to whom I am much indebted for permission to publish the case.

On admission she was thin and pale. The skin was moist, the legs œdematous, and the fingers "clubbed." Both knee-joints were much swollen and slightly painful. The temperature varied between 96° and 99° F. daily. She had repeated fits of coughing with copious expectoration of purulent sputum. This sputum contained streptococci, pneumococci, and M. catarrhalis, but tubercle bacilli were not found after the most thorough search. It is worthy of note here that tubercle bacilli never had been found in the sputum when examined at the Brompton or Mount Vernon Hospitals or the Northwood Sanatorium. On examination of the chest the right side was seen to be sunken in and to move badly on respiration. Vocal fremitus was increased all over the right side, which was quite dull on percussion. All sorts of added sounds could be heard on auscultation, and at times well-marked amphoric breathing could be made out, *but not always*. Vocal resonance was increased. The larynx showed some slight interarytenoid thickening, but was otherwise normal. The liver and spleen were thought to be slightly enlarged, and the urine contained 0·1 per cent. of albumin and numerous hyaline casts. The fluid from her swollen knee-joints was examined and found to be sterile. The diagnosis of bronchiectasis was made, and this was admirably confirmed by a radiograph taken by Mr. E. S. Worrall, which showed cavitation of the entire right lower lobe. She was treated by the ordinary remedies for bronchiectasis, and in addition an autogenous vaccine was prepared from her sputum. She was discharged in August *in statu quo*.

The patient was readmitted in January, 1911, her general condition being somewhat worse, but her physical signs as before. The case appearing suitable for an attempt at drainage of the lung by surgical means, and the operation being agreed to by the patient, Mr. Rock Carling successfully opened and drained the lung on March 8th. The opening was made as low as possible, portions of the eighth and ninth ribs being removed; the lung was carefully stitched to the parietal pleura and chest wall and then opened with a cautery and the bronchiectatic cavities entered. A tube and some gauze were used for drainage. After the operation she did well and seemed to improve for 12 days, but suddenly on March 20th she had a severe hæmoptysis and died rapidly within ten minutes. This hæmoptysis was the only attack she had had while under observation at Westminster Hospital.

Necropsy.—The body was emaciated and pale. Surgical wound in right scapular line 2 inches long, and portions of the eighth and ninth ribs missing here. This wound led into the lower lobe of the right lung, which was bound to the chest wall by old adhesions and recent surgical sutures. The right pleural cavity was dry. The right lower lobe contained four obliquely placed cavities situated midway between the anterior and posterior surfaces of the lobe. These cavities communicated with one another, the lowest draining by the surgical wound, and the highest opened into the main bronchus to the lower lobe. These four cavities were filled with clot and débris. In the right bronchus, 1 inch from the bifurcation and just above the highest of the four cavities just mentioned, was a pedunculated tumour about the

[1] A paper read before the Medical Section of the Royal Society of Medicine, April 28th, 1914.

size of a walnut. This tumour was attached by a short pedicle to the wall of the bronchus, and on cross section was seen to be of firm consistency with patches of softening scattered about it. The colour of the tumour was white, the softened areas being somewhat more yellow than the rest. The left lung was voluminous and contained inhaled blood. The stomach contained blood. The kidneys, spleen, and liver showed amyloid degeneration, and in addition the liver showed numbers of small hard white secondary deposits of the size of a large pin's head to that of a pea. These were scattered throughout the liver substance, but more so at the periphery than in the deeper parts. There was nothing else noteworthy about the viscera.

Histological examination.—The tumour was seen to be covered partly by columnar epithelium and partly by squamous epithelium (metaplasia). In places the epithelium is much degenerated. The tumour itself is divided into loculi by fibrous bands, which in places are of considerable thickness; these loculi are filled by small round and cuboidal cells, the nuclei of which are round,

The right lung bisected to show a pedunculated tumour in the bronchus. Four cavities are also seen in the base of the lung, and a surgical drainage hole at the lowest point.

and though small are relatively large when compared with the cell. In places the tumour is very vascular, and there are large areas of degeneration in several parts (? caused by hæmorrhage into the growth). In some situations the arrangement of the cells is adenomatous, and therefore might by some be classed as a carcinoma. The cells, however, are of mesoblastic type, and it would be more correct to class it as a mesothelioma (adenosarcoma), the histology closely resembling those appearances seen in tumours of supposed congenital origin. The secondary deposits have a similar structure, but no degeneration is visible.

Remarks.—The points of interest in the case are: (1) the rarity of the condition; (2) the impossibility of diagnosing the condition except with the bronchoscope: (3) the slow growth of the tumour and the long history; (4) the intermittent occurrence of amphoric breathing, doubtless due to movements of the tumour in the bronchus; and (5) the mode of termination by ? hæmorrhage from the growth. As regards the mode of termination and the difficulties of diagnosis it is interesting to compare this case with two cases of pedunculated tumour of the stomach that Dr. Gossage and myself showed in November, 1913.[2] In both these stomach cases the mode of termination was by hæmorrhage from the growth, which also showed extensive areas of degeneration as in the case under discussion.

Wimpole-street, W.

A CONSIDERATION OF SOME CASES OF EXOPHTHALMIC GOITRE TREATED BY OPERATION.

BY ALBERT J. WALTON, M.S., B.SC. LOND., F.R.C.S. ENG.,
ASSISTANT SURGEON TO THE LONDON HOSPITAL.

OF late years evidence has been accumulating as to the value of surgical treatment in cases of Graves's disease. This line of treatment is theoretically indicated owing to the evidence that has been brought forward in support of the following conclusions.

1. *That the Disease is Due to an Excess of Thyroid Secretion.*

Unless there is strong evidence that the symptoms are produced by over-activity of the thyroid body there would be theoretically but little indication for the removal of a portion of the gland. Evidence in favour of this theory has been sought for along two lines.

(*a*) *Experiments performed upon animals.*—Edmunds[4] and French[5] have shown that if animals such as monkeys, dogs, and rats be injected with an extract of human goitres the disease could be produced in them. It is true that Klose[10 11] and Carlson[1] have also deduced from experiments that the disease is due to an alteration in rather than an excess of secretion of the thyroid. Such experiments upon animals are, however, of very doubtful value, for it is uncertain what effect a heterogeneous extract prepared from human beings could have upon an animal of an entirely different species.

(*b*) *Clinical evidence.*—Several cases have been reported where large doses of thyroid extract have been taken and have given rise to the symptoms of exophthalmic goitre. In the case described by Von Notthaft,[23] a man took excessive doses as a cure for obesity and rapidly developed the disease. When the extract was discontinued he recovered. In a larger number of recorded cases the administration of thyroid extract in cases of simple enlargement of the gland has been followed by the onset of symptoms of Graves's disease. In all cases of exophthalmic goitre there is evidence of overgrowth of the thyroid gland, although in rare cases such an overgrowth cannot be demonstrated clinically. The nature of the overgrowth is very constant, and consists of a cellular hyperplasia suggesting that the gland is hyper-active. In addition to the above changes it is not uncommon to find a certain amount of hyperthyroidism in association with localised overgrowths of the thyroid, although it is rare for such symptoms to constitute a true case of exophthalmic goitre. These symptoms of hyperthyroidism may occur

[2] A. M. Gossage and Braxton Hicks: Proceedings of Royal Society of Medicine, 1913 (Medical Section), vol. vii., No. 2.

with adenomata, with primary carcinoma, and even, as recorded by Mori,[21] with secondary growths. The above facts afford strong evidence in favour of the disease being due to over-activity of the thyroid gland.

2. *That the Results of Medical Treatment are Unsatisfactory.*

If these cases reacted well to medical treatment surgical interference would of course be unnecessary, in spite of the fact that the condition is dependent upon an overgrowth of the thyroid. There is, however, increasing evidence that medical treatment is not altogether satisfactory, and is associated not uncommonly with a high mortality. Attention is also being directed to the important fact that medical treatment is often slow, so that even if the disease be ultimately cured the patient may have suffered several years' incapacity.

As regards the mortality, Mackenzie[17] states that in his experience about 25 per cent. of the patients died directly from the disease, whilst Leedham-Green,[15] from a large number of collected cases, gives the mortality under medical treatment as more than 15 per cent. On the other hand, Hale White[8] investigated the cases treated in Guy's Hospital during a period of 20 years. Of over 200 cases 102 alone were traced. Of these 15 had died. He estimated that in a similar number of normal people there would be in the same period of time 8 deaths—that is to say, the mortality in cases of exophthalmic goitre is roughly double that of normal people. Although this death-rate does not seem high, it must be remembered that in the first place only 50 per cent. of the cases were traced, and since it is probable that one of the reasons of the failure to trace the remaining numbers is the fact that many were dead, it seems only fair to assume that these figures under-estimate the mortality. In the second place, these figures do not include 18 patients who died in hospital, these alone giving a mortality of 9 per cent. The above set of figures are sufficient to show that the mortality of the disease is relatively high.

Of equal or even more importance is the length of time during which these patients are incapacitated while under medical treatment. It is being more frequently recognised that the majority of cases are invalided for a very considerable period, and some of them are indeed totally unfitted for work for many years, or even for the rest of their lives. Thus Mackenzie[16] collected 33 of his own patients where the disease lasted five years or ended fatally, and Kuttner[14] traced 9 cases which had been under medical treatment for 15 years. In my own 10 cases 5 of them had had the disease and had been prevented from participating in any active work for a period of two years. It would seem therefore that, in addition to a relatively high mortality, treatment by medical means is very often extremely prolonged.

3. *That the Operative Mortality is not Necessarily High.*

Until the last few years it had been widely believed that the operative mortality in this condition was extremely high, so high, in fact, that many regarded the operation as unjustifiable. The figures of Kocher,[12] Dunhill,[2] and C. H. Mayo[19] have done much to dispel these fears. Kocher,[12] in a series of 865 operations, has reported a total mortality of under 3 per cent. Dunhill[2] has only had 4 deaths in 230 cases, and Mayo[19] has had a series of 278 cases without a single death. In my own series of 10 cases, which were all well-marked examples of the disease, there has been no mortality, and at no time had there been any fear of a fatal termination, although several of the cases showed a well-marked reaction to operation.

4. *That the Results of Surgical Treatment are Very Satisfactory.*

In considering the end results of surgical treatment account must be taken not only of the operative mortality but also of the mortality due to the disease in those who recover from the operation. The sum of these figures must be compared with the number of deaths from medical treatment, and operation only advised if the surgical results show a distinct improvement on the medical. The second factor of importance is the length of time for which the patient is incapacitated after operation as compared with the incapacity associated with medical treatment. Kocher[12] found that of his 669 cases 22 died at a later date. Five of these died from some heart condition which was possibly dependent upon the presence of the goitre. In the majority of recorded lists either no note is made of a late post-operative mortality or the figures show that there was no such mortality. As a general rule the reaction from surgical treatment is prompt and a large proportion are permanently cured. Fuller[6] found that 85 per cent. of the 600 cases he collected were completely cured and the relief was prompt. In my own cases, although so short a time has elapsed, one is completely cured and the remainder with the exception of one case are greatly relieved. With regard to the single exception, the patient is better than before operation, but owing probably to the fact that she had to return to relatively hard work shortly after operation she has not yet made as favourable progress as the other cases.

5. *That the Danger of Post-operative Myxœdema is Slight.*

It is frequently asserted that, since in a certain number of cases the thyroid returns to its normal condition after a given interval, some of those cases in whom operation has been performed will in the same period of time develop myxœdema, the remaining portion of the thyroid having returned to its normal state and giving insufficient secretion. I can find, however, no evidence in medical literature that such cases do arise. Fuller[6] states that in the cases he collected a few which showed improvement immediately went on to athyroidism, but no further details of the symptoms are given, and it is probable that these were examples of the rapid onset of myxœdema due to the fact that too much thyroid tissue had been removed at operation, there being several such cases recorded by other surgeons. Such a condition, however, is due to an error of technique and cannot be regarded as an objection to the operation carefully performed.

Details of Present Cases.

In the last year I have operated upon 10 cases all of which were well-marked examples of Graves's disease. I have not included among them several cases of parenchymatous enlargement or simple adenomata which were associated with mild hyperthyroidism, as it is doubtful whether such cases should be considered even as mild varieties of Graves's disease. The details of these cases both as regards their symptoms and the after-results are given in the appended table. The symptoms have been in existence for periods varying from two

Table giving Details of 10 Cases of Exophthalmic Goitre treated by Operation.

Case.	Age.	Sex.	Married or single.	Duration.	Symptoms.	Operation.	Pathological report.	Anæsthetic.	Result.	End result.
1	47	F.	M.	18 months.	Pulse 130. Palpitations; headaches; marked nervousness; skin moist, sweating; much dyspnœa; exophthalmos; Möbius, von Graefe; tremors; thyroid diffusely enlarged.	Dec. 16th, 1913. Hemithyroidectomy.	Marked cellular hyperplasia; few patches of colloid.	Open ether.	Slight increase first few days.	Feb. 19th, 1914. Scar perfect; no tremors; exophthalmos barely visible; feels in perfect health; does housework with ease.
2	44	F.	M.	5 „	Pulse 140. Palpitations; flushings; very nervous; skin moist; dyspnœa; moderate exophthalmos; Möbius, von Graefe, Stellwag, and Joffroy all present; tremors; thyroid, diffuse enlargement; amenorrhœa three months; thyroid thrill.	Dec. 3rd, 1913. Hemithyroidectomy.	Marked cellular hyperplasia, with some colloid.	„	Slight reaction.	Feb. 25th, 1914. Letter from medical attendant. Nervousness much less; tachycardia and palpitations much less; greatly improved.
3	19	F.	S.	7 „	Pulse 130. Very weak and tired; palpitations; very nervous; much sweating; much dyspnœa; extreme exophthalmos; Möbius, von Graefe, Stellwag, and Joffroy all present; tremors; thyroid, diffuse enlargement; thrill and pulsation; three months' medical treatment.	Nov. 26th, 1913. Hemithyroidectomy.	Cellular hyperplasia with colloid hypertrophy.	„	Considerable reaction; pulse 130 for three days; catamenia three days after operation.	Feb. 26th, 1914. Much improvement for two months; relapsed a little after returning home; had to work; now pulse 100; exophthalmos marked in service.
4	33	F.	M.	2 „	Pulse 100. Debility; palpitations; loss of weight; nervous; dyspnœa; sweating; much exophthalmos; von Graefe and Stellwag present; thyroid, diffuse enlargement; catamenia regular; no blood changes.	Nov. 12th, 1913. Hemithyroidectomy.	Diffuse colloid overgrowth.	„	Considerable reaction; pulse 120; temperature 99·5°; alteration in voice two days.	March 8th, 1914. Much improved; slight dyspnœa; returned to work two months; can do it easily.
5	25	F.	S.	2 years.	Pulse 106. Palpitations; nervous; sweating; dyspnœa; sleeplessness; slight exophthalmos; Möbius, von Graefe, Stellwag, and Joffroy; diffuse thyroid; tremors; three months' medical treatment.	Oct. 22nd, 1913. Hemithyroidectomy.	Cellular hyperplasia with little colloid.	„	Considerable reaction; temperature 101°; pulse 100; rapid recovery.	March 7th, 1914. Nearly well; slight dyspnœa and exophthalmos; can get about in usual way.
6	27	F.	M.*	2 „	Pulse 100. Palpitations; nervous; dyspnœa; sweating; anæmic; exophthalmos; Möbius, Stellwag, and Joffroy present; nervous; diffuse thyroid; blood count, 14·5 per cent. lymphocytes.	Sept. 4th, 1913. Hemithyroidectomy.	Richly cellular overgrowth; no colloid.	„	Slight reaction; acute appendicitis ten days later.	Nov. 30th, 1912. Much improved; slight palpitations; no tremors.
7	24	F.	M.	2 „	Pulse 150. Palpitations; systolic murmur present; heart dilated; very nervous; much sweating; much dyspnœa; marked exophthalmos; Möbius, von Graefe, Stellwag, and Joffroy present; catamenia regular; blood—reds 5,700,000, lymphocytes 17·5 per cent.	Feb. 12th, 1913. Hemithyroidectomy.	Much cellular hyperplasia; slight colloid.	„	Considerable reaction for two days.	March 10th, 1914. Cured; feels in perfect health; eight months pregnant; not nervous; no tremors or exophthalmos.
8	41	F.	S.	2 „	Pulse 112. Weakness; fainting fits; palpitations; nervousness; much sweating; marked dyspnœa; occasional diarrhœa; marked exophthalmos; catamenia regular; Möbius, von Graefe, Stellwag, and Joffroy present; marked tremors; diffuse thyroid; sent home to rest for three weeks before operation.	Jan. 14th, 1914. Hemithyroidectomy; preliminary ligature of inferior thyroid artery.	Richly cellular hyperplasia; small amount of colloid.	Open ether; rectal ether.	Considerable reaction; pulse 100; vomiting two days.	March 5th, 1914. Much better; still dyspnœa and palpitations on exertion; exophthalmos present.
9	23	F.	S.	2 „	Pulse 120. Palpitations; very nervous; sweating; dyspnœa; some difficulty in swallowing; occasional diarrhœa; extreme exophthalmos; Möbius, von Graefe, Stellwag, and Joffroy all present; tremors; amenorrhœa; six months' medical treatment; no improvement.	Feb. 18th, 1914. Hemithyroidectomy; preliminary ligature of inferior thyroid artery.	Cellular hyperplasia.	„	Marked reaction; diarrhœa; vomiting; restlessness; temperature 100°, pulse 140; recovery after three days.	Considerably improved as regards nervousness; too recent.
10	40	F.	S.	7 months.	Pulse 110. Palpitations; very nervous; much sweating; dyspnœa; exophthalmos; Möbius, von Graefe, Stellwag, and Joffroy present; severe diarrhœa; marked tremors; slight dysphagia; brother died from exophthalmic goitre; no operation; one month's medical treatment.	Feb. 18th, 1914. Hemithyroidectomy; preliminary ligature of inferior thyroid artery.	Cellular and colloid hyperplasia.	„	Marked reaction for two days; temperature 102°.	Much improved; still in on medical side; nervousness less; pulse 90; palpitations less.

* One child.

months to two years, and the pathological changes found were of interest. As Berry[24] has pointed out, there are very few records of the changes found in the early stages. It will be seen from the table that the earlier cases all showed a certain amount, or even an excess, of colloid material,[c] which is suggestive that the primary change is one of colloidal increase. The later cases showed a marked cellular proliferation and the presence of little, if any, colloid material, the pathological changes being therefore in accordance with those usually described with this disease.

Success in operating to a large extent depends upon a careful consideration of the time at which the operation should be performed. There are certain acute cases where the symptoms appear suddenly and progress with great rapidity. In many of these the thyroid shows but little enlargement in the earlier stages. Operation in such cases is associated with a very high mortality, so that this form of treatment should never be advocated.

In the more common varieties of the disease it is very important to realise that the symptoms show very considerable variation in their severity. Not infrequently there are exacerbations which last for a week or more and are followed by periods during which the symptoms are in abeyance. If possible such cases must be watched and operative treatment carried out in one of the intervals between the exacerbations.

Three of my own cases came into hospital with very marked nervousness, rapid pulse, dyspnœa, and tremors. They were all given a period of three weeks' complete rest in bed, at the end of which time the severity of the symptoms was considerably improved and operation was safely carried out. The failure to recognise this fact and the tendency to operate during a period when the symptoms are marked is, in my opinion, largely responsible for the high mortality reported in earlier series of cases.

In addition to this fluctuation in the symptoms the length of time that the disease has existed is also of importance. Plummer[25] has pointed out that the greatest height of intoxication is reached during the latter half of the first year and then rapidly drops, so that operation is more likely to be successful if performed either early in the disease or at a later period, and as far as possible in my own series I have tried to perform the operation either within the first six months or after a period of two years. It will be noted that in one case operation was performed at the eighteenth month of the disease, but in this case, which was carefully kept under observation, it was found that in the relatively quiet intervals the symptoms were comparatively mild. In the later stages of the disease—that is to say, after several years—there is an increase of danger owing to the presence of secondary degeneration in other viscera.

The danger of performing operations on other parts of the body in patients suffering from Graves's disease must also be kept in mind. In such circumstances there is the same stimulation of the thyroid secretion as occurs when the thyroid itself is operated upon, but this is not counterbalanced by the fact that a portion of the thyroid has been removed. If, therefore, an operation has to be performed on some other organ it is always wiser if possible to carry out first the operative treatment on the thyroid and to perform the other operation at a later date.

It will be noticed that one of my cases developed acute appendicitis two weeks after hemithyroidectomy. Operation was unhesitatingly carried out for this condition with no ill-results.

As regards the question of anæsthesia, much difference of opinion has arisen as to whether the operation should be performed under a local or general anæsthetic. On the one hand, Kocher[13] and Dunhill[2] strongly advocate the use of a local anæsthetic, the latter regarding its use as a most important factor in the success of operative treatment. On the other hand, Mayo[20] in the majority of cases prefers open ether.

Personally, I have in every case used a general anæsthetic, open ether being always employed, and I am of the opinion that it is more important to overcome the mental fear which is so marked a factor than to eliminate the slight toxic effect of a general anæsthetic. It is true that in all cases this anæsthetic has been administered by one highly skilled in its use, but in no case has there been the slightest difficulty or trouble. I consider the avoidance of mental excitement to be of so much importance that in the last three cases the patient has not been informed of the date of the operation, and has had this carried out without her knowledge. A solution of ether in olive oil (5 oz. of a 50 per cent. solution) was administered per rectum by the method advocated by Gwathmey[7] 20 minutes before operation. On reaching the theatre the patient was unconscious, and the anæsthetic was then continued with ether on the open mask. The fear of the operation and the disagreeable preliminaries are thus avoided. It is, of course, necessary if such a method be used to obtain the consent and assistance of the relatives.

Operative Details.

As regards the operative details, hemithyroidectomy has been performed in every case, and unless there was some evidence suggesting that the left lobe should be removed a right hemithyroidectomy was the operation of choice. Kocher's horseshoe incision passing over both lobes was used. The two anterior jugular veins being tied and divided, the anterior border of the sterno-mastoid was freed and retracted. The pretracheal muscles were then divided and carefully dissected off the gland. The upper pole was dissected and the vessels ligatured *en masse* and the upper pole freed. The importance of keeping within the capsule and even leaving a small layer of the gland on the posterior surface was fully recognised, thereby safeguarding both the parathyroids and the recurrent laryngeal nerves. The drawback to this method is that in this position the inferior thyroid artery has already divided into its branches. If these be cut separately and then picked up with forceps there is often very free hæmorrhage owing to the marked vascularity of the gland. For this reason I have in the last three cases laid bare the artery just internal to the carotid sheath by separating the fascial planes, as advocated by Jones,[9] and applied a ligature to the artery in its continuity. Even after this preliminary step it is remarkable that a considerable amount of hæmorrhage may occur from the separate branches as they are divided. The whole lobe is then carefully dissected off the trachea and the isthmus divided. Any bleeding points are ligatured; a small tube is inserted into the wound for 24 hours; the muscles sutured with catgut; and the skin with silkworm gut. In spite of many expressions to the contrary it would appear to be of great importance that the gland should be most carefully handled, and in my own cases

I have used great care not to compress the gland in any part of the operation. Each stage should be slowly and carefully performed, so that in the majority of cases the operation will occupy from three-quarters to one hour. In none of my cases was it necessary to perform a preliminary ligature of the vessels. Certain cases have had most marked symptoms, but after a short period of complete rest in bed these had sufficiently abated to allow the operation of hemithyroidectomy to be safely carried out. It is probable, however, that in cases of longer standing such a preliminary form of treatment would be insufficient, and that ligature might have to be carried out some time previous to the hemithyroidectomy.

In most of the cases there was a considerable amount of reaction for the first two days after the operation. The pulse and the temperature both showed a slight rise, and in two of the more severe cases there was a considerable amount of restlessness. To combat this large doses of saline were given per rectum and fluid by the mouth, hypodermic injections of morphia not being restricted.

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Weymouth-street, W.

MALIGNANT TUMOURS OF BONES:

A NEW METHOD IN CONSERVATIVE OPERATIVE TREATMENT.

BY PROFESSOR R. WENGLOWSKI,

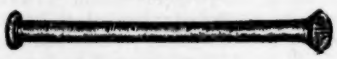
MOSCOW.

IN malignant tumours which affect bone the surgeon is now compelled to resect the bone. In tumours of the extremities, if the tumour involves the greater part of the bone, amputation is necessary. Generally the resected portion of the bone is replaced by pieces of living or dead bone from the same patient or from some other person. Experiments have shown that the transplanted living bone has generally died and become replaced by new bone, and the same replacement also takes place in the transplantation of pieces of dead bone, but more slowly than when living bone is employed.

To avoid the resection of the affected portion of bone it occurred to me to sterilise the bone and thus to kill all the elements of the tumour, and then to allow the dead bone to remain in its natural connexion with the healthy part of bone. After the sterilisation the bone resembles exactly the piece of dead bone inserted after a resection; it is covered with the soft parts and the wound is treated in the same way. In fact, in this method the bone which is killed corresponds to transplanted bone. The chief advantage of the method consists in the complete and natural connexion of the killed bone with the sound bone, such a connexion as cannot be produced by the most ingenious operation. Moreover, the sterilisation is technically much more simple and easy than the resection and transplantation.

The sterilisation is performed by means of steam under high pressure. For this purpose an ordinary autoclave is used, or even a steam kettle may be employed; in it steam is formed under a pressure of from 3 to 5 atmospheres. Upon the spout of the kettle I put a thick-walled rubber tube from 1½ to 2 metres long, and on the other end of this tube I fasten a piece of metal tubing. This metal piece has many holes for the escape of the steam. I make use of two models: for the sterilisation of the front side of the bone a straight metal tube with terminal holes as in Fig. 1—it gives a direct stream of

FIG. 1.



steam; for the hinder surface of the bone I use a larger flattened tube which is slightly curved, and the concave side has the holes for the escape of the steam. (Fig. 2.)

FIG. 2.

The sterilisation proceeds as follows. After the removal of the tumour in the soft parts I scrape off the rest of the tumour upon the bone and lay bare the bone as for a resection. To protect the soft parts from burning I cover them with three or four thicknesses of gauze; upon this I put a thin sterilised layer of asbestos, and finally a metal plate. This metal plate is used to guard the soft parts from the hot condensation water which might trickle through the gauze and the asbestos. Then the curved metal tube is passed under the bone and the steam is turned on.

I have made the following experiments to determine the time necessary for the sterilisation of the different bones. The femur was sawed through; into its medullary cavity I pushed a thermometer, and I placed the curved metal tube upon the outside of the bone. After from 4 to 4½ minutes the thermometer showed from 75° to 80° C., a temperature not only enough to kill all the cells, but also any bacteria present. Moreover, it appeared that not only the surface near the steam reaches such a temperature, but also the opposite side of the bone. To heat the tibia to from 75° to 80° C. it is necessary to apply the steam for 3 minutes, for the lower jaw-bone 1½ minutes, and for the condyles of the femur 8 minutes. To determine how far the over-heating extends sideways in the direction of the sound bone I put the bulb of the thermometer on the bone at a distance of from 2 to 3 cm. It appeared that at 2 cm. distant the temperature is only 45° to 50° C., and at 3 cm. distant from 35° to 40° C., so that the effect of the steam only extends to about 2 cm. from the steam. If the greater part of the bone is to be sterilised the sterilisation must be effected bit

by bit, the metal tube being pushed along the bone. The experiment shows that it is not necessary to sterilise the front surface of the bone by itself, for it is included in the sphere of activity of the steam which has sterilised the medullary cavity.

This method is only an attempt to extend the field of conservatism in the treatment of malignant tumours of bone.

THE INFLUENCE OF THE X RAYS ON SOME CASES OF PERSISTENT SUPPURATION.

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MEDICAL OFFICER IN CHARGE OF THE ELECTRICAL DEPARTMENT, ST. BARTHOLOMEW'S HOSPITAL.

TWO years ago I tried the effect of the X rays upon a case of chronic suppuration of very long duration, which had resisted other forms of treatment, including surgical operation. The suppuration was arrested, the part healed, and the cure has lasted to the present time. Three other cases of a similar kind were then treated, and equally good results were obtained. During the past year other cases have been treated so as to investigate the action of the X rays upon chronic suppuration, and the results show that this form of treatment has an influence upon its progress, lessening it in some cases, and in others permanently arresting it. Many cases are still under treatment, but a short account will be given of the first four cases, as they have been kept under observation for the longest time.

CASE 1.—A patient aged 22. A case of infective periostitis and prolonged suppuration of three years' duration. The past history showed that in 1904 the patient had had an abscess on her chin; it had healed spontaneously. In 1908 another abscess had appeared in the same situation. It "broke," and began to discharge. The discharge was small in amount but persistent. Early in 1910 a surgical operation was performed, and another in November of the same year, but after each the discharge soon reappeared. In February, 1911, the patient was admitted to hospital, the sinus was excised, the bone scraped, and the wound stitched. In July it was necessary to repeat the operation, as the discharge had recurred. A piece of dead bone was removed and some more was scraped away. In October a fifth operation was carried out, again without any lasting benefit. In December X ray treatment was commenced. There was then a sinus leading down to bone in the region of the symphysis of the lower jaw, with granulations extending for a quarter of an inch around and the outlying skin was adherent. One application of X rays was made in each period of three weeks, full doses being given (tint B, Sabouraud's method of measurement). After the fifth application the discharge greatly diminished; after the eighth it further diminished and became intermittent; and after the eleventh it ceased, and no more was noticed for three months. During this time the skin grew over the granulations, and the closed sinus and the site of the former suppuration was marked by a deep dimple with a small area of red skin at its base. At the end of the three months a slight discharge was again noticed and another application of X rays was made, and one more (the last given) a month later. The discharge ceased altogether, and no more was noticed during the succeeding 15 months. The patient was kept under observation during this time, and was last seen in February, 1914.

CASE 2.—A patient, aged 15. A case of chronic infective periostitis with chronic suppuration lasting six months. Past history: In December, 1911, a painful swelling appeared on the right side of the face over the lower jaw. The skin became red and then "broke," and a purulent discharge made its appearance and continued day after day without cessation. In June, 1912, the patient was taken to hospital. An operation was performed and a piece of dead bone was removed. The discharge soon reappeared. On July 23rd X ray treatment was commenced. There was then a firm swelling to be felt on the body of the lower jaw in the region of the angle, measuring about 1½ inches by ½ inch. The skin overlying was red, and at its centre was a sinus from which pus was oozing. Smaller applications of X rays were given than in Case 1, but at shorter intervals, one each week. After the second application the discharge lessened and became intermittent, and after the third the sinus closed and no more discharge was seen from that time onwards. Three more short applications were made, the last on Sept. 9th. In January, 1913, the swelling had diminished in size, and the skin overlying was slightly erythematous and a little keloid was present in it. In December the swelling could not be felt, and the keloid had disappeared. In March, 1914, a pink scar marked the site of the former suppuration and swelling.

CASE 3.—A patient aged 20. This was a case probably of hygroma which was subsequently infected. Past history: In 1908 the patient noticed a painless swelling on the back of the forearm just above the wrist. It very slowly enlarged. In 1911 the swelling was incised, and a "dark brown" fluid escaped. Soon after, a second swelling, similar to the first, appeared close to it, nearer the elbow. A third swelling also appeared over the wrist, but it disappeared spontaneously. The discharge from the first swelling persisted in spite of local treatment. On April 30th, 1913, X ray treatment was commenced. At that time there was a tense swelling on the posterior aspect of the forearm, about an inch in diameter, slightly movable, and slightly raising the overlying skin, which was normal and not inflamed. This was the second swelling noticed by the patient. Immediately below was a sinus, from the opening of which was oozing a sero-purulent fluid. The bones of the forearm were X rayed and found to be normal. Applications of X rays were made once a fortnight. After the second application the discharge considerably diminished, and after the third it disappeared altogether. One more application was made. In January, 1914, the sinus was still closed. The swelling was still palpable, but it was considerably smaller.

CASE 4.—A patient aged 11. A case of tuberculous bursitis; operation and subsequent chronic discharge. Past history: In January, 1913, the patient developed pain and swelling in front of one knee. In March an abscess in the prepatellar bursa was opened and the cavity scraped out. Tubercle bacilli were found. The wound healed by first intention, but later on it reopened at one point and pus continued to discharge slowly. In July, X ray treatment was commenced. At that time there was a thin sero-purulent discharge from a sinus leading to the prepatellar bursa. There was also clinical evidence of tuberculous infection of the knee-joint. The treatment was repeated once every fortnight. After the second application the discharge diminished, and after the third it disappeared. The patient was afterwards admitted to the Lord Mayor Treloar's Home at Alton. The disease became quiescent in the knee, but there was no more discharge from the former sinus (January, 1914).

These four cases showed chronic suppuration, small in amount, and in superficial situations. Case 1 received full applications of X rays at longer intervals; Case 2 received small applications at short intervals; and Cases 3 and 4 received medium applications at intervals of medium length. The dosage was measured by Sabouraud's method. The most suitable technique with regard to dosage, penetration power of the rays, and the use of filters is difficult to decide, particularly as the *modus operandi* of the X rays in producing their effects on the tissues is not known. In arresting the process of suppuration the X rays do not act only (if at all) by destroying the pyogenic organisms. In some experiments that were made to test the action of the X rays upon cultures of bacteria the pyogenic organisms were not destroyed. I am inclined to the belief that the X rays produce some local tissue reaction against

the invading organisms, and at the same time some general reaction. In many of the cases that have been treated there has been considerable improvement in the general health, although in some of them the suppuration has not been arrested.

I am indebted to Mr. D'Arcy Power for permission to publish Case 1.

Upper Wimpole-street, W.

Medical Societies.

ROYAL SOCIETY OF MEDICINE.

CLINICAL SECTION.

Exhibition of Clinical Cases and Pathological Specimens.

A MEETING of this section was held on May 8th, Mr. CHARTERS J. SYMONDS, the President, being in the chair.

Dr. CLIVE RIVIERE showed a case of Spleno-myelogenic Leukæmia. It was that of a boy aged 12, who was admitted to hospital in December, 1913, with history of cough, breathlessness, pain in the right shoulder, and general weakness of one year's duration. He then was well nourished with a somewhat plethoric aspect. The spleen reached to the umbilicus; the liver 1 in. below the costal margin. Signs of enlarged thoracic glands were found mainly consisting of increase of oval interspinous dulness on the right side and impairment at the lung apex. A skiagram confirmed this. The urine contained much albumin. He had been treated by arsenic, X rays, and benzol. During the time the boy had been under observation he had felt well, had gained 6 lb. in weight, and his temperature had kept within normal limits. The pulse was accelerated, about 116. The liver had remained unaltered, but the spleen had increased in size both downwards and forwards. The area of lung impairment, indicative of enlarged chest glands, had also increased, and now extended between the first and ninth dorsal spines on the right side. The leucocytes had increased from 167,000 to 425,000 per c.mm.

Mr. SIDNEY A. BOYD showed a case illustrating the treatment by Splenectomy for Splenomegalic Cirrhosis with Ascites. The woman, aged 23, came under observation in November, 1913, for ascites, for which she had been in hospital in 1908. The notes of the case stated that the spleen was then somewhat enlarged. Paracentesis abdominis was performed several times, but the fluid quickly re-accumulated. Laparotomy was then performed, and the condition was thought to be due to tuberculous peritonitis. There were "some very suspicious caseous masses at the junction of the Fallopian tubes with the uterus, and partly on the broad ligaments. No definite tubercles could be seen elsewhere. The peritoneum looked very red, was much congested, and bled very freely." The abdomen was drained with a rubber tube for 24 hours, a large quantity of fluid escaping. She had made a good recovery from this operation, and remained in good health until October, 1913, when she noticed the abdomen again becoming distended. Upon examination in November, 1913, the patient was found to be a well-nourished young woman, not anæmic nor icteric, and with no signs of disease in the chest. The abdomen was greatly distended, the girth at the umbilicus being 36 in. No dilated veins were visible on the abdominal wall. The scar of the previous operation had stretched somewhat and bulged forwards. The distension was obviously due to ascites, and in the upper part of the abdomen an enlarged spleen could be felt. The liver was not palpable. Eight days later laparotomy was performed, the old scar being excised, and a large quantity of straw-coloured fluid escaped. There were no signs of tuberculosis on the parietal or visceral peritoneum, but a few adhesions were present between the coils of intestine. Except for some adhesions around the pelvic organs the latter appeared normal. The liver felt hard and irregular on the surface and smaller than normal. The spleen was considerably enlarged, and its convex surface was free from adhesions. The parietal peritoneum was somewhat thickened. The incision was closed and healed well in seven days. The Wassermann reaction was negative. The ascites rapidly recurred after the operation. Paracentesis was performed and 15 pints of fluid drawn off. This was repeated, when 11 pints were drawn off. Splenectomy was then performed through a vertical incision at the outer edge of the left rectus. It was not possible to deliver the spleen through the wound on account of a broad band of adhesion from the posterior border to the posterior abdominal wall. The pedicle was therefore first tied off in sections and divided, and the adhesions posteriorly then dealt with. The branches of the splenic artery and vein were very large, but very little blood was lost. The liver was inspected and found to be in an extremely cirrhotic state, being not more than two-thirds the normal size, very hard and granular on the surface. There was practically no omentum present, only a few tags, or omentopexy would have been performed. The incision was closed in the usual way. The patient recovered well from the operation and her convalescence was smooth. The ascitic fluid collected again, but more slowly than before the operation. Three and a half weeks after the operation paracentesis was performed, 11½ pints being drawn off. Eleven days later the girth had increased from re-accumulation of fluid, but after this it gradually decreased and the fluid disappeared. It had not since re-collected, and the patient's general condition was good. Dr. A. G. Gibson had cultivated, after 18 days' incubation, a thick Gram-negative, non-motile bacillus which could not be continued in subculture. The remainder of the culture tubes remained sterile. This case was of interest both from the point of view of diagnosis and also from the effect of removal of the spleen. The case was obviously not one of Banti's disease (regarding Banti's disease as the terminal stage of splenic anæmia). There had been no anæmia, no leucopenia, no gastro-intestinal hæmorrhage. The spleen was known to have been enlarged in 1908, when laparotomy was performed for chronic peritonitis, probably of a tuberculous nature. Was it possible that the whole condition was due to tuberculosis—the splenomegaly, the hepatic cirrhosis, and the ascites? (Various French authors had raised the question of tuberculous hepatic cirrhosis.) The first laparotomy cured the ascites for five years. The second laparotomy had no effect on the ascites, which rapidly recurred. Removal of the spleen certainly had a direct effect upon it. The ascites could not have been due solely to perisplenitis, as the fluid re-accumulated at first after removal of the spleen and the abdomen had to be tapped. Nor would simple mechanical relief to the portal circulation, which splenectomy would entail, account for the result for the same reason. Removal of the spleen was not likely to influence the hepatic cirrhosis so favourably in a few weeks as to cause the ascites to disappear. On the other hand, if the spleen be regarded as a primary seat of infection by the organism grown from it, secondary to which a chronic peritonitis developed and also hepatic cirrhosis, this was an explanation which would satisfy all the conditions. This was the view which Mr. Boyd was inclined to take, and to consider the illness from which the patient suffered six years ago as an independent one, as far as the ascites was concerned. Time alone would tell whether the removal of the spleen had arrested the progress of the cirrhosis, but from the point of view of relieving the ascites the operation had already justified itself.

Dr. ARTHUR F. HERTZ showed three cases of Thomsen's Disease in members of the same family, two brothers aged 25 and 13, and a sister aged 16. The degree of hypertrophy of the muscles was very marked.

Dr. F. PARKES WEBER showed a case of Progressive Vertebral Ankylosis ("Spondylose Rhizomélique"). The patient was a man aged 67. The whole of the vertebral column and the cranio-vertebral articulations appeared to be ankylosed in a position of kyphosis characteristic of such cases. The ribs apparently did not move with respiration, which was altogether diaphragmatic. He could open his mouth a little. The movement in both shoulders was much limited, more in the right than the left. The hip-joints were severely affected. The more distal joints of his limbs were free, excepting that he could not extend his knees completely. In the semi-recumbent position he could feed himself with a spoon. He could walk about a little with the help of a stick. Some tremulousness of the hands, suggesting

that of paralysis agitans, was often observable. Roentgen skiagrams of the patient's neck (lateral view) showed that all the bodies of the vertebræ were united by a layer of bone at their anterior margins. There was no history of any venereal disease, and the blood serum gave a negative Wassermann reaction for syphilis. The teeth and gums were in a very bad condition, with much stone-like incrustation. There was much muscular rigidity or hypertonicity, as if the muscles were "on guard" to shield the joints or prevent sudden "jarring" movements of the body.

Dr. WEBER also showed a specimen of Spasmodic Stricture of the Œsophagus (Cardiospasm) with Fusiform Dilatation above it. The patient from whom this specimen was taken was a man aged 80, who had been suffering more or less (on and off) from obstruction in the œsophagus since the latter part of 1904. In February, 1906, he was in a very starved condition, and as no soft bougie could be passed through the cardia into the stomach, Dr. Zum Busch performed a gastrostomy. After the operation the patient improved very much, and the gastrostomy opening was allowed to close. It was completely closed in March, 1908, and it was quite clear that there was no carcinomatous stricture of the œsophagus present, but the old trouble had returned and the patient had to be fed by a hard œsophageal bougie, as at that time no soft bougie could be passed through the cardia. When he left the hospital again in May, 1908, he was feeling well and had gained 13 lb. in weight. In November, 1909, Dr. Zum Busch had again to dilate the cardia on account of spasmodic stricture. Since that time the patient had been an in-patient occasionally on the medical side of the hospital. In April he had two attacks of cardiac syncope, from the latter of which he died. The post-mortem examination showed that the cardia, which did not appear much (if at all) thickened, admitted the passage of the middle finger; yet the stomach was empty, and the œsophagus contained food. There was decided fusiform dilatation of the lower part of the œsophagus. There could scarcely be any doubt that in spite of the characteristic absence (or almost entire absence) of hypertrophy of the cardia the dilatation of the œsophagus was secondary to the cardiospasm. But what the exact cause was of the cardiospasm in the severe and dangerous type of cases, of which the present one was an excellent example, remained a mystery.

The PRESIDENT showed a specimen of Cancer of the Rectum; excision after application of radium. It was removed from a man, aged 73, in April last. In October, 1913, there was a typical annular growth, 1½ inches from the anus. A piece of mucous membrane about the breadth of the finger between the two ends of the growth was unaffected. In October, 2 mgm. of radium were applied on five consecutive days for six hours. In November both to the finger and to the eye all appearance of growth had disappeared. There was a complete ring of cicatricial tissue, the free part of the bowel being no longer visible. In February last colostomy was necessary for the relief of symptoms due to the stricture. In April the disease was removed by the perineal route, the proximal end being sutured to the anal portion without division of the sphincter. Complete union of the bowel took place and the colostomy wound was closed a month later. The specimen showed what appeared to be a cicatricial stricture. There was healthy mucous membrane above, whilst below it looked smoother than normal and the muscular coat seemed thickened. Two small hard glands were present in the meso-rectum. Microscopically the typical appearance of a cicatrising cylindrical epithelioma was seen in the section, through the stricture and also in the lymphatics. The whole of the rectum below the stricture, though appearing thickened, did not show any growth. The specimen was exhibited to show the favourable effects of radium.

Mr. T. L. ELLIS and Dr. H. D. ROLLESTON showed a case of Arthritis associated with Psoriasis. The patient, aged 35, had never had syphilis, gonorrhœa, or rheumatic fever. Twenty years ago he had had left-sided pleurisy, and about the same time he had injured the left knee, but he had no further trouble with it until about four years ago, when it became painful and stiff, psoriasis having appeared one month before. Two years ago he was treated for six months with arsenic, and both the psoriasis and the arthritis disappeared. In November, 1912, the psoriasis and the arthritis gradually recurred, and in April, 1913, he was treated with ionisation without any improvement. Radiography showed slight irregularity of the inner surface and inner condyle of the femur and the head of the tibia near the articular surfaces, thus suggesting slight superficial ostitis. Some carious teeth were removed, and about this time the right knee became affected. In October last he had in addition some stiffness of the temporo-maxillary joints, some more bad teeth were removed, and a vaccine, prepared from streptococci and pneumococci isolated from the sockets, was given with some slight benefit. The psoriasis practically disappeared under arsenic and local treatment (butyl-salicylate was employed as well as the ordinary external applications), but the arthritis did not, as on a former occasion, show a corresponding improvement. The arsenic was discontinued on account of abdominal pain, and the psoriasis was returning. The nails showed the results of psoriasis. Aspiration of the knee and bacteriological examination of the fæces had failed to throw any light on the cause of the arthritis. The urine yielded a diphtheroid organism and a Gram-positive coccus. The temperature had been practically normal throughout. Leucodescent lights and strapping had been employed, and quite recently, in the light of R. Pemberton's conclusions that rheumatoid arthritis was a metabolic disease due to intolerance to ordinary quantities of protein and carbohydrate food, a restricted diet combined with thyroid extract was being tried. The knees were swollen, painful, and stiff.

Dr. JAMES GALLOWAY exhibited specimens from a case of Splenomegaly with Gastro-intestinal Hæmorrhages (shown at the meeting of the section on Feb. 13th). The patient was prepared for operation first by the removal of free abdominal fluid—about 30 pints of fluid were drawn off the day before the operation—and by other appropriate measures. The operation of splenectomy was performed in March. The spleen was removed through an incision corresponding to the outer edge of the left rectus muscle. The spleen itself had very few adhesions, but there was a little difficulty in finding and isolating the pedicle. A large thin-walled vessel, no doubt the splenic vein, was ligatured, but a few minutes later the cavity from which the spleen was being removed filled up rapidly with venous blood, probably from the splenic vein. On stopping the hæmorrhage and clearing out the cavity the opening of the splenic vein was seen and more carefully ligatured. The operation in the later stages had to be performed as rapidly as possible on account of the exhaustion of the patient. The immediate result of the operation seemed to be satisfactory. The patient recovered in quite a remarkable way from the shock and the next day the number of red blood cells was found to be 2,300,000. The temperature rose rapidly after the operation, however, and again fell, till four days later it had reached the level of 100° F. Once more a rise of temperature occurred, and along with this there was evidence that a certain portion of the wound was not healing. Quantities of fluid began to flow through the wound from the abdominal cavity, and gradually the greater portion of the wound opened out, much ascitic fluid passing into the dressings. In spite of this condition the patient exhibited remarkable powers of resistance, and it was not till ten days after the operation that he showed definite signs of exhaustion. No signs of general peritonitis were at any time observable; he died from what appeared to be exhaustion 15 days after the operation. Post-mortem examination revealed an infected condition of the external wound and, to a slight extent, of the cavity from which the spleen had been removed in the immediate neighbourhood of the wound, but there were no indications of any widespread or generalised peritoneal infection. The liver was markedly cirrhosed, the cirrhosis being of a coarse, multilobular type. The cut end of the splenic vein at the point of ligature was well healed. The splenic vein itself was enlarged, markedly tortuous, and in parts thrombosed. The remains of the vasa brevia were also enlarged and the veins of the mucous membrane in the lower portion of the œsophagus and the neighbouring part of the stomach were greatly enlarged and congested.

Dr. J. ALISON GLOVER read a short paper on a case of Rupture of an Aneurysm of the Abdominal Aorta in a young woman.

SECTION OF OPHTHALMOLOGY.

Pathological Observations on the Filtration Angle in some Glaucoma Cases.—Ideal Glaucoma Incision.—Variable Flap Operation for Chronic Glaucoma.—Herbert's Small-flap Operation for Glaucoma.—Exhibition of Cases and Specimens.

A MEETING of this section was held on May 6th under the presidency of Sir ANDERSON CRITCHETT.

Mr. BASIL T. LANG showed a stereoscopic X ray photograph of a case of Traumatic Enophthalmos; also a bottle specimen showing an early stage in intra-ocular suppuration.

Dr. J. S. BOOKLESS showed a Congenital Cataract, probably of the Coppuc type.

Mr. R. AFFLECK GREEVES read a paper entitled "Pathological Observations on the Filtration Angle in some Glaucoma Cases." He spoke of glaucoma cases in which there was no closure of the filtration angle by a peripheral anterior synechia. The cases described in the paper resolved themselves into three groups. In the first were cases in which an irido-cyclitis was, or had been, present. He described the invasion of the spaces of Fontana by granulation tissue containing capillary vessels, this tissue ultimately forming a solid mass of scar tissue, with which the pectinate ligament became incorporated. In the second group the tissues of the pectinate ligament were unaltered, but the spaces were blocked by large swollen cells, apparently of a phagocytic nature. In the third group the spaces of Fontana were open, but simple retinal detachment was present. In these latter cases the author suggested the rise of tension and the retinal detachment were due to the same cause—namely, an alteration in the composition of the intra-ocular fluid. Mr. Greeves also commented on secondary glaucoma with intra-ocular growth, and said he thought that in some cases an inflammatory element might be present. Microphotographs illustrated the paper, shown by the epidiascope.

Lieutenant-Colonel H. HERBERT, I.M.S., read a paper on the Ideal Glaucoma Incision. He said the section most suitable for the relief of glaucoma was a limited subconjunctival incision in the transverse vertical plane, a millimetre behind the limbus, the conjunctiva at this point being only loosely attached. A sufficiently near approach to this section could be obtained by puncture and counter-puncture with a very narrow tapering knife. Though sufficiently peripheral superficially to facilitate diffusion of aqueous backward under the conjunctiva, it reached the deep surface of the cornea well in front of the root of the iris. Although making only a limited opening into the anterior chamber the incision was superficially long, so widening the area of diffusion. Thus the tendency to localised vesicular change from filtration through the conjunctiva was reduced to a minimum. It was this change which had been mainly responsible for the late infections reported after trephining. Permanent filtration through this incision was secured in chronic glaucoma if the wound were kept open 24 hours. One method of doing this was to fix a gilded metal rod by sutures so that it lay in the incision though upon the conjunctiva, depressing the latter into the scleral groove. The method had the advantage of never emptying the anterior chamber, and during the operation there was only slight leakage. The operation, therefore, seemed to be one of the safest imaginable. Apart from the danger of late infection being lessened, there was less risk of intra-ocular hæmorrhage, and interference was reduced to the minimum. Ordinarily there was no need to interfere with the iris. The details still required to be fully worked out. It was desirable to avoid all unnecessary displacement of conjunctiva, which tended to localise filtration, and in the second place it was necessary to provide sufficiently free leakage of aqueous in congestive and absolute glaucomas.

Mr. N. BISHOP HARMAN submitted a paper on a Variable Flap Operation for Chronic Glaucoma. He devised the operation so as to allow the surgeon some latitude in the grading of the effects intended to be produced. Most of the methods now used were very rigid; the same was done for every kind of eye and every texture of sclera, whether thin or soft, or tough and gristly. After initial scleral section with the keratome the author's modified twin scissors were used to cut a corneo-scleral flap. The blades of the scissors had been so modified that they cut a U-shaped piece free, except for a narrow stalk of attachment to the cornea. This flap was freely movable; the ordinary tension of the eye lifted it above the general level of the sclera. It was so mobile that it could be twisted over on itself; then it was found to lift the conjunctiva and form a sort of inclusion tissue keeping open the scleral fistula. If the sclera were unusually tough the flap could be removed with the touch of the knife. He favoured the operation as securing the desired variation, and the twisting of the flap in particular promised to be very effective.

Mr. W. G. LAWS read a paper entitled "Herbert's Small-flap Operation for Glaucoma." He was inclined to return to the original type of the operation and make lateral cuts with the knife, for scissors must crush and injure the tissues before dividing them; and in glaucomatous eyes the tissue was already of lowered vitality. For that reason he did not apply antiseptics to the conjunctival sac, nor even douche it before operating; he simply cleansed the edges of the lids with 1 in 3000 perchloride. Out of 140 cases he had had intra-ocular hæmorrhage in only three at the time of the operation, and these he described. He did not believe in one form of operation for all glaucoma cases, particularly where the anterior chamber was shallow.

Mr. A. L. WHITEHEAD (Leeds), in discussing the papers, pointed out that after the glaucoma operation fistulous tracts were set up from the anterior chamber towards the spaces of Fontana, lined with epithelium which was probably derived from the anterior chamber. When the operation failed it seemed to be due to the occurrence of a new fibrous tissue formation, which closed the operation wound whatever the operator did. He narrated some cases bearing out his contention.

SECTION OF PATHOLOGY.

Cell Division.—Pseudo-tuberculosis Hyalina Testis.

A MEETING of this section was held on May 5th, Dr. F. W. ANDREWES, the President, being in the chair.

Mr. H. C. ROSS gave a lantern demonstration to illustrate the similarity between certain types of cell division artificially produced by auxetics and certain figures found in the blood in pernicious anæmia. This was in support of his previous work on division of lymphocytes.—An animated discussion followed in which Sir RONALD ROSS, Dr. J. A. MURRAY, Dr. E. F. BASHFORD, Dr. J. W. CROPPER, and Mr. S. G. SHATTOCK took part.

Dr. MURRAY and Dr. BASHFORD then gave a kinematograph display illustrative of the mitotic division of cells in the blood of the newt, in order to show that the phases previously demonstrated by staining methods in fixed films were reproductions of the actual process.

Mr. SHATTOCK, under the name Pseudo-tuberculosis Hyalina Testis, described a condition simulating a nodular tuberculosis of the body of the testis. The term "pseudo-tuberculosis" had rightly been discarded in the nomenclature of infective processes; they no longer spoke, e.g., of a streptotricial pseudo-tuberculosis. The lesions were named after the bacteria or animal parasites causing them. Nevertheless for non-infective lesions the term might still be convenient. Many forms of nodular fibrosis of the lung from dust inhalation were striking simulants of tuberculous disease. In the present case so close was the likeness that the testicle would have certainly been condemned if split through for inspection at an operation prior to a contemplated epididymectomy. The lesion was due to the hyaline degeneration and swelling of the intertubular stroma around groups of seminiferous tubules, of which the cells were similarly thickened and which were in different stages of obsolescence. In the extreme stage the tubuli were represented by thick-walled hyaline cylinders, with the narrowest chink to represent a lumen, the whole of the epithelium having disappeared. As a final change the lumen itself became obliterated. The nature of these structures was determinable by finding epithelium and spermatozoa in their lumen in the earlier steps of the change. Groups of similarly thickened tubuli occurred in this specimen without any accompanying hyaline swelling of the pertaining stroma. Mr. Shattock, on examining the testicles of the aged, had found similar groups of obsolete thickened tubuli, which might be so extensive as to produce macroscopic foci and irregular tracks simulating a

tuberculous lesion, without any corresponding involvement of the stroma. The thickening possibly resulted from the local action of the effete products of disintegrating epithelium, and, having a toxic origin, was allied in kind to the hyaline and amyloid thickening of the capillaries in more general disease. In syphilitic and in leprous orchitis tubuli showing the same change might be encountered, whilst the thickening of the walls of the tubuli in the hypoplasic undescended organ had long been pointed out. Such hypoplasic testicles probably functioned for a brief period, their early obsolescence being followed by disintegration of the tubular epithelium, and as a further result by thickening of the walls of the tubes.

MEDICAL SOCIETY OF LONDON.

Ascites and its Treatment.

A MEETING of this society was held on May 11th, Sir DAVID FERRIER, the President, being in the chair.

Dr. DE HAVILLAND HALL opened a discussion on a case of Ascites and its Treatment. The patient was a lady, aged 34, who married at the age of 22, but had had no family. She was seen in September, 1908, and stated that 11 years previously she had had a severe illness with elevated temperature lasting six weeks. Five years later she had influenza with swelling of the abdomen and enlargement of the liver. She was ill for five or six months and had attacks of faintness. She made a good recovery and continued well until the autumn of 1907, when she over-exerted herself while riding—as a result she suffered from dyspnœa. In March, 1908, some cyanosis was noticed, and she was kept in bed for five weeks. After this she had various courses of treatment, including one at Nauheim. When first seen by Dr. de Havilland Hall the patient had a pulse of 108 per minute, it was irregular, intermittent, and small in volume. The area of cardiac dulness was increased, the impulse was outside the mid-clavicular line, there was no thrill and no distinct murmur could be detected. Nothing abnormal was found in the lungs. There was no œdema of the ankles. The liver was enlarged and there was free fluid in the peritoneal cavity. The urine contained neither albumin nor sugar. The diagnosis recorded at the time was "dilatation of the heart with enlargement of the liver, not due to cirrhosis." During the course of the patient's illness she was seen in consultation by Dr. Hale White, Sir R. Douglas Powell, and Sir William Osler. Dr. Hale White considered that the ascites was caused by disease of the liver. Sir R. Douglas Powell expressed the opinion that the condition of the heart was chiefly responsible for the ascites and other symptoms. Sir William Osler only saw the patient later in her illness, when a definite diagnosis was out of the question. In spite of medicinal treatment the ascites increased, so the patient was tapped with Southey's tube in April and June, 1909. The following July Mr. W. G. Spencer performed omentopexy. Six weeks later paracentesis was again required. In April, 1910, femoral drainage was carried out. In June of the same year the abdomen was opened, the lower pole of the spleen was scarified through its capsule, an area of parietal peritoneum the size of the palm was dissected off, and the left kidney decapsulated. The peritoneal cavity was wiped out and a drainage-tube was left in. In January, 1911, doubled strands of large-sized floss silk were passed, after Mr Sampson Handley's method. One end was left in the peritoneal cavity and the other was brought out through a button-hole over the lower ribs to the posterior fold of the axilla, and a second strand was passed under the right breast. After the last operation the patient gave up all hope of recovery, and though at times she consented to take some drugs she would not continue any definite line of treatment. On several occasions when the output of urine had fallen below a pint in the 20 hours, and once to 12 ounces, the administration of tabloids of pituitary extract had the effect of increasing the amount of urine to nearly 4 pints in the 24 hours. Unfortunately the good effect soon passed off. The repeated tappings, 49 in all, gradually weakened the patient, she got œdema of the lungs and ankles, and in May, 1913, after a cheerful "Good night" to her family, she took 240 grains of medonal and died comatose 48 hours later. The post-mortem examination was made by Dr. B. H. Spilsbury. The pericardium was completely obliterated by old adhesions; over the apex and the posterior surface of the heart there was extensive calcification, forming an almost complete carapace for that part of the heart. The heart was apparently not enlarged. Slight thickening of the free edges of the mitral cusps was present. The myocardium showed advanced fatty degeneration. The peritoneum was thickened, especially over the liver and spleen. Firm adhesions were found over the liver and spleen and between the coils of the small intestine. The liver weighed 72 ounces and showed everywhere most advanced passive congestion, as did also the spleen and kidneys. Dr. Spilsbury regarded all the changes as the result of the pericardial disease. Dr. de Havilland Hall pointed out the difficulty of the diagnosis in the case under consideration. Sir R. Douglas Powell was in favour of the cardiac origin of the trouble, whereas Dr. Hale White regarded the liver as the primary seat of the mischief. The question of pericardial adhesion was not definitely raised by any of the physicians who saw the patient, but in the light of the post-mortem examination the history of the case emerged fairly clearly. It was impossible to give a correct diagnosis to the first illness from which the patient suffered, but the illness which occurred five years later was more probably rheumatic than influenzal, and the commencement of the pericarditis might be assigned to this time. Dr. de Havilland Hall laid it down as an axiom that in the presence of the signs of cardiac failure and the absence of any valvular lesion the existence of mural degeneration or pericardial adhesions must be postulated to explain the symptoms, and these two conditions often coincided, as in the case under consideration. The case emphasised the fact that the symptoms of adherent pericardium might be almost entirely of hepatic origin and might give rise to the erroneous diagnosis of cirrhosis of the liver—i.e., Pick's pseudo-cirrhosis syndrome. After discussing the medicinal treatment of ascites, Dr. Hall described the various operative methods which have been employed for the relief of chronic ascites. (1) Omentopexy—the Drummond-Morison or Talma operation; (2) Dr. Essex Wynter's plan of femoral drainage; (3) the formation of adhesions between the spleen and the abdominal wall and decapsulation of the kidney; (4) drainage by means of strands of silk passing from the peritoneal cavity into the subcutaneous tissue of the thorax; (5) the formation of a communication between the internal saphenous vein and the peritoneum; (6) the direct union of the internal saphena vein to one of the branches of the portal vein; (7) an operation recently devised by Rosenstein with the object of providing a permanent drain from the peritoneal cavity into the bladder; and (8) a method called the auto-serum treatment had been advocated. After having punctured the peritoneal cavity and drawn some of the ascitic fluid into the syringe the needle was withdrawn only so far as to leave the point just under the skin. The fluid was then injected into the subcutaneous tissue. The dose to start with was 3 c.c. and the amount should be gradually increased. The injections should be given about once a week, and 10 or 12 might be needed. They were said to cause a great increase in the output of urine. Dr. de Havilland Hall recommended paracentesis by means of Southey's tube, so as to allow of the gradual emptying of the peritoneal cavity and the avoidance thereby of shock.

Sir R. DOUGLAS POWELL said that Dr. de Havilland Hall deserved the thanks of the society for bringing forward a case of great value and importance in so complete a manner. It would afford an opportunity of discussing many interesting methods of treatment of abdominal dropsy and the importance of a correct diagnosis as a guide in differentiating cases to which each method might be expected to be most applicable. The case was interesting and important, too, in exemplifying in a striking manner how much treatment of disease had been advanced by the Listerian methods. He remembered well after his student days how impossible it was even to open an abdomen or a joint, much less to scrape, detach, transplant, or anastomose any portion of their walls. Each of the many methods of treatment adopted in this case gave relief (1) from direct pressure in abdomen and (2) by lightening the load of the heart through serous depletion (which had become checked by intra-abdominal pressure).

For those purposes the abdominal tappings and laparotomy were probably most efficacious. But the continued loss of serum proved in time very exhausting and could not long be endured by persons of broken constitution. Mr. Handley's and Dr. Wynter's methods were less exhausting by keeping the serum in the organism, and whilst affording mechanical relief to the local impediment at the same time relieved the general circulation by stimulating kidney secretion. The auto-serum treatment seemed also in some degree to act as a diuretic. It was to be observed, however, that the mechanism of defect in the circulation in this case was of a kind quite different from that which obtained in cases of cirrhosis in which anastomotic diversion of blood current was often of great value. He had, for instance, seen a case of uræmic convulsions completely relieved by Edebohl's operation of stripping the renal capsules, but here, as in cirrhosis, the difficulty was one of local obstruction of vessels. In the present case the difficulty was of central source in a failure of heart power from intrinsic disease of that organ. The *vis a tergo* of the circulation was impaired and was not sufficient to propel the blood through the great venous channels. The great portal and other abdominal sections of the venous reservoir—or, as it was picturesquely termed by Professor Keith, the venous cistern—became stagnant, and the aspiratory aids to the circulation or *vis a fronte* were insufficient to compensate for the defect. Hence abdominal stagnation and serous effusion. It was still a mystery why in some cases of heart failure abdominal dropsy either alone or out of all proportion to general œdema occurred, and in others (the majority) the reverse. In the presence of such central failure so much benefit could not be expected from anastomoses effected by omentopexy or adhesions as would arise in cases where the difficulty was due to obstruction in the capillary terminals of the portal vessels. By retaining more blood in the arterial system, and by stimulating such muscular substance as could respond in the heart, such remedies as digitalis and pituitary extract were of temporary use in increasing the kidney function.

Dr. W. HALE WHITE spoke of the possible value of pituitary extract as a diuretic. From physiological researches one would expect it to increase the output of urine, but he had found that it did so only temporarily. Copaiba had often proved an excellent diuretic for people with ascites. Collections of fluid connected with diseases of the heart might occur in one locality only, and this fact illustrated how little we knew as to the cause of œdema in heart disease. For the sake of argument he would dissent from the view that the case was primarily one of heart disease. There was a considerable degree of cirrhosis and the liver had been noticed to be large and nodular. He thought it would be agreed that passive congestion from heart failure did not give rise to a degree of cirrhosis which was obvious at an operation or post mortem. We had little knowledge of the cause of cirrhosis. Alcohol could only be considered as a contributory cause. It was much commoner in London than in either Glasgow or Aberdeen, where spirit drinking was certainly not less. Mahomedans had been shown to be affected by it. In the cases described by Dr. S. A. K. Wilson under the title "progressive lenticular degeneration" a gross form of cirrhosis of the liver was an important feature. It also occurred in children when there was no suggestion of alcohol drinking. There was, therefore, some cause for cirrhosis at present unknown. He questioned whether an ascites which frequently recurred was found apart from a morbid condition of the peritoneum. In polyserositis the peritoneum usually bore the brunt of the disorder, and in that condition the abdomen might be tapped an enormous number of times. Kelly had, however, described a variety in which the pericardium was chiefly affected. He would suggest that the nature of the case which formed the basis for the discussion was polyserositis and cirrhosis, though possibly he had exaggerated the importance of the cirrhosis.

Mr. WALTER G. SPENCER said that he regarded the Talma-Morison operation as a physiological anastomosis. The difficulties in the operation devised by Dr. Essex Wynter were that fluid leaked into the legs and prevented the patient from getting about, and there was the mechanical difficulty of keeping the tube from becoming blocked. The same applied to Mr. Sampson Handley's method. He had found that the silk strands used became permeated with young fibrous tissue. The value of the Talma-Morison operation was further enhanced by the opportunity it gave of exploring the abdomen, for by that means gummata might be discovered or papilliferous ovarian cysts. Exploration by laparotomy might throw an important light on such cases.

Dr. H. MORLEY FLETCHER said that the diagnosis was not perfectly clear even now, although that of polyserositis was highly probable. It was still uncertain whether it was usual to find a great amount of cirrhosis of the liver in such cases. He did not think that the heart was primarily at fault. What was the cause of the mediastino-pericarditis found? It was generally believed to be tuberculous, but might possibly be due to some other infection. The degree of cirrhosis was in advance of what one would expect to find.

Dr. B. H. SPILSBURY said that the post-mortem appearances were very unusual. The liver weighed 70 ounces and was in a very advanced state of cirrhosis. The capsule was greatly thickened. The cirrhosis was not uniformly distributed, but rather was suggestive of a late syphilitic cirrhosis. The fact that the cirrhosis was more pronounced on the superficial part of the organ suggested that it was due to nutmeg congestion. A careful examination of the deeper parts of the liver revealed congestion of the intralobular veins and fresh fibrosis taking place side by side. He concluded that it was an extremely rare form of replacement fibrosis, secondary to congestion. Possibly it was the remittance of the congestion which accounted for the unusual degree of replacement fibrosis in such cases. He had seen only five similar ones out of some hundreds of examples of ordinary nutmeg congestion.

Dr. DE HAVILLAND HALL briefly replied.

MEDICO-PSYCHOLOGICAL ASSOCIATION OF GREAT BRITAIN AND IRELAND.

Address on Insanity.

THE spring meeting of the South-Eastern division of this association was held on April 30th at Chiswick House, Chiswick, Dr. JAMES CHAMBERS, the President, being in the chair. The election took place of representatives on the general council of the association for 1914–15.

Dr. T. SEYMOUR TUKE read a communication giving interesting records of work done at Chiswick House since the transfer in 1893 of the licence (granted in 1845 to the late Dr. Harrington Tuke) from the Manor House, Chiswick. In a retrospect of these 21 years he expressed the view that the results of much extended knowledge of insanity and its pathology had not been as great as one might have expected. This was decidedly disappointing. Some 70 years ago and more his distinguished grandfather, Dr. Conolly, succeeded, with the help of other physicians, in convincing thoughtful people that insanity was a physical disease. The advantage to the community at large, and especially to the insane, of this education of the public could not be over-estimated. Then came a period of eagerness on the part of scientists to attain a more accurate knowledge of the pathology of insanity. As a result there were a constantly increasing number of post-mortem and laboratory observations. But the question now suggested itself, How much have these scientific investigations helped the practical physician who undertakes the treatment of the disease? Is the percentage of permanent cures of insanity in the United Kingdom as much higher now than it was 30 years ago as might be expected after so great an amount of research? Dr. Tuke enumerated some of the reasons why in his opinion successful treatment had not made a greater advance. Foremost among these he put the increasing selfishness of the age and the greater frequency with which the word "uncertifiable" was used in regard to cases which had really passed the "border-line," also the increasing dilatoriness on the part of general practitioners about signing certificates, even in cases in which there ought to be no hesitation. With regard to the latter, he was inclined to fear that much valuable time was often lost while waiting for the results of laboratory investigations. Such adjuncts to the means of diagnosis had an undoubted value; but while they were being collated days were passing in many cases during which therapeutic measures for the benefit of the patient might have been adopted that ought never to be delayed. Among these he specially referred to

removal from unfavourable surroundings, and said that no drugs could ever supersede good air, wisely regulated exercise, freedom from unnecessary control (however well intentioned), and nursing by those accustomed to deal with the insane. He feared there was too much dependence at the present time on the hypodermic introduction of drugs and other forms of chemical restraint.

A short discussion followed, in which Sir GEORGE SAVAGE, Mr. JAMES STEWART, Mr. J. NOEL SERGEANT, and others took part.

A vote of thanks to Dr. Tuke terminated the proceedings.

LEEDS AND WEST RIDING MEDICO-CHIRURGICAL SOCIETY.—The last meeting of the session was held at the Leeds Infirmary on May 1st, Dr. T. Wardrop Griffith, the President, being in the chair.—Dr. R. G. M. Ladell read a paper entitled "Some Practical Points in Connexion with the Use of Therapeutic Suggestion." He said that therapeutic suggestion could be practised without actual hypnosis. Even where hypnosis was aimed at in nine out of ten cases the patient did not actually sleep, and it was a great mistake to let the patient think that sleep was a necessary preliminary to cure. Hysterical subjects were not good cases as they were already under the influence of their auto-suggestion. Neurotic cases, drug takers, and alcoholics were suitable cases for treatment. Neurasthenics required other treatment as well, but therapeutic suggestion was of great assistance. It was important that the patient should understand that the treatment differed widely from the popular idea of hypnotism as set forth in novels and plays. It strengthened the will power instead of sapping it, and the subject remained his own master all through. Suggestions must be adapted to the patient. With some patients one could be dogmatic; others required reasoned arguments. The effect was cumulative and could not be judged by a single sitting. Nothing should be done to any patient which was not done with the object of facilitating his cure. Experiments should only be performed on healthy subjects.—Dr. M. J. Stewart showed a series of microscopic preparations illustrating some of the conditions under which local deposits of cholesterin occur in the tissues, with remarks on the cellular reactions induced. The specimens shown included chronic mastitis, with rosette-like groups of giant cells arranged round bunches of the crystals; squamous epitheliomata with advanced cornification; teratomata of the testis; subacute cholecystitis; adeno-carcinoma ovarii papillare; fibro-xantho-sarcoma; and thyroid cyst. The most striking feature of the cellular reactions induced was the constant occurrence of large numbers of giant cells of the foreign-body type whenever the crystals were deposited in the midst of living vascular tissue.—Dr. G. W. Watson showed a case of Ulcerative Colitis which had made a striking improvement under treatment. The patient was a man, aged 40, who had been troubled with severe abdominal pain, associated with diarrhœa and the passage of bloody and mucous stools, for over a year. Cæcostomy had been performed in Newcastle with absolutely no benefit. When he came under observation three months ago emaciation was extreme, his weight being only about 7 st. He was treated with sterilised kaolin, and from the first week of administration he began to improve. At the present time he weighs over 12 st. and feels perfectly well.—Cases and specimens were also shown by Professor J. B. Hellier. Dr. W. Gough, Mr. J. A. Coupland, Mr. J. F. Dobson, Dr. R. A. Veale, Dr. T. Churton, Mr. S. W. Daw, Mr. E. R. Flint, Dr. C. W. Vining, and Dr. A. H. Miller.

LIVERPOOL MEDICAL INSTITUTION.—A meeting of this society was held on April 23rd, Dr. E. W. Hope, the President, being in the chair.—Dr. K. Grossmann, Dr. R. Stopford Taylor, and Dr. R. W. McKenna showed a case of Epithelioma of Eyelid Treated by Radium. The tumour grew painlessly for 12 months. Radium was applied for 500 hours in all, at first for seven hours daily, and then for four hours daily, with the result that the tumour disappeared and the condition of the eye became almost normal. The pre-auricular gland, which was enlarged when treatment was undertaken, gradually diminished.—Dr. John Campbell read a note on Five Cases of Osteitis Deformans. The father and four children were affected. No history of syphilis could be obtained, and there was no evidence of the same. The father, who was shown, presented the characteristic attitude and deformities. The pain was not severe; diarrhœa, weakness, and emaciation were progressive features. Palpitation and dyspnœa distressed him. There were no blood changes, and the Wassermann reaction was negative.—The President, Mr. G. P. Newbolt, Mr. K. Montsarrat, and Mr. R. W. Murray discussed the note; Dr. Campbell replied.—Dr. J. Murray Bligh read a paper on Infant Feeding. He began by giving a comprehensive review of the art of infant feeding in Roman, Tudor, Elizabethan, Stuart, and Victorian times. He showed that from the middle of the sixteenth century to the middle of the nineteenth century the professional wet nurse was the only alternative to maternal suckling. The advent of the bottle and artificial foods dated from the beginning of the nineteenth century. In his opinion the bottle was an invention of which Herod himself might be proud, and he held the view that the effect of artificial feeding on family life was only comparable with that of poverty and syphilis. Underwood's work was referred to as creating another epoch. Dr. Bligh deplored the waste of energy shown by brilliant investigators who devoted their time solely to the preparation of artificial foods and the sterilisation of milk rather than to the much more important problem of the increasing lack of power possessed by the woman of to-day to suckle her own infant. In his opinion the modern mother was censurable and abysmally ignorant. He concluded with the remark that the vocation of woman was the adequate fulfilment of her destiny.—The President drew attention to the fact that the infant of to-day was cared for on all sides and in all ways to a remarkable extent. He emphasised the value of the Notification of Births Act in dealing with the infants, and stated that it was the duty of all sanitarians to get the mother to do her duty.—Professor J. M. Beattie pointed out that the electric sterilisation of milk was to prevent certain diseases due to the consumption of unsterilised milk, and said that no one was a more ardent believer in maternal suckling than himself.—Dr. F. H. Barendt spoke as a family man, and referred to the old saying, "nine months in and nine months out."—Dr. N. P. Marsh regretted that the wet nurse had fallen into disrepute. In their order of merit he placed sterilisation of milk first and scalding of milk second. He upheld the value of percentage feeding, and regretted the costliness of this method.—Dr. Bligh replied.

A CORNISH CENTENARIAN.—Mrs. Hannah Bailey died at Falmouth on May 1st, aged 101 years. The deceased was born on August 7th, 1812.

CARAVAN CLUB.—The annual dinner of the Caravan Club of Great Britain and Ireland took place at the Café Monico on May 6th, the chair being taken by Major Alfred C. Tunstall, R.A.M.C. (T. retired). The secretary, Mr. Harris Stone, in proposing the toast of "The Road," referred to the accidental coincidence that May 6th was April 23rd (O.S.), St. George's Day, so that while they were feasting in London there were thousands of gipsies feasting in Eastern Europe, celebrating the arrival of spring and the resumption of nomad life after a comfortless winter within the walls of a house, who would invite every passer by to join in their feasting and festivities. Dr. T. N. Kelynack, in responding, dwelt upon the hygienic and economic advantages of the open-air life, which was on all fours with modern ideas as to the superiority of prevention over cure of disease, and he said that all in delicate health would do well to join the ranks of the caravanners, while incidentally they would escape part of the increasing burden of rates and taxes. He mentioned also the great public services which were rendered by Lady Aberdeen's caravans in Ireland and by those of the Women's Imperial Health Association. "The Caravan Club" was proposed by Mr. Wilfred Mark Webb and responded to by the Chairman. Commander Charles Eldred, R.N., proposed the toast of "The Visitors," which was responded to by Dr. Albert Wilson, who said that at present the nation was going to pieces "on its nerves," and he suggested caravanning as a remedy. In responding to the toast of his health Mr. Stone spoke of the services that the Caravan Club could render to the country in case of war, for he personally knew of an enormous amount of equipment which could be placed at the disposition of the army and the medical department.

Reviews and Notices of Books.

Defensive Ferments of the Animal Organism against Substances out of Harmony with the Body, the Blood Plasma, and the Cells; their Demonstration and their Diagnostic Significance for Testing the Functions of Different Organs.

By EMIL ABDERHALDEN, Director of the Physiological Institute of the University at Halle a S. Third enlarged edition. With 11 text figures and 1 plate. English translation by J. GAVRONSKY, M.R.C.S. Eng., L.R.C.P. Lond., M.D. Halle; and W. F. LANCHESTER, M.A. London: John Bale, Sons, and Danielsson, Limited. 1914. Pp. 242. Price 7*s.* 6*d.* net.

IN our review of the second German edition of this work[1] we expressed the wish that the second edition might have as rapid a success as its predecessor. Our wish has been more than fulfilled. Now we have an English translation of the third German edition. It took less than three months to exhaust the second German edition—an indication that this new field of research has excited much interest. At the outset we desire to compliment the translators on the manner in which they have rendered into English the German text. For the words "fremd" and "eigen," as they are used in the original, it is difficult to find an exact equivalent, but we think the terms "harmony" and "disharmony" used by the translators fairly meet the conception of the author. We have only one suggestion to make: we could have wished that the text had been arranged in chapters, more especially as there is no index. On comparing this edition with the second German edition we find a few additions here and there. In the "Contents" three items have been added, but otherwise the text is much the same. There is a not inconsiderable addition to the bibliography. A review of the first edition will be found in THE LANCET of Jan. 4th, 1913, p. 39. The word "albumen" is sometimes used where "protein" might be preferable, and we are introduced to a new word, "decomposites," for "spaltproducten."

We have already dealt so fully with the two German editions that it now only remains to emphasise a few points. Having regard to the fact that blood plasma is unable, either in the majority of animals or in man, to produce decomposition of albumins, peptones, and polypeptones, or fats, and only in some instances of carbohydrates, the question arises whether the blood plasma exhibits new properties in cases in which substances are introduced, and which are out of harmony with the plasma and particularly with the body. The author's experiments prove conclusively that by introducing substances which are out of harmony with the species and with the plasma, the body defends itself by the production of specific "ferments" that are directed against special kinds of substrates. The ferments in the plasma persist for a long time after the introduction of disharmonious substances, whether they be products of proteins or of carbohydrates. The lymph is regarded as a "buffer"—a "neutral" zone—between the cells of the blood and those of the body. The application of these phenomena to the diagnosis of pregnancy—serodiagnosis—is now acknowledged. The animal organism, within certain limits, generally defends itself by means of ferments—e.g., proteolytic, pepsin, trypsin, erepsin—against compounds that are capable of decomposition and that consist of many elements. The application of these discoveries to pathology, to clinical medicine, and to the functions of organs is illustrated with regard to carcinoma, nephritis, and other diseases.

We feel sure that this translation will be welcomed by all who take an interest in a new biological problem of commanding scientific and practical interest.

[1] THE LANCET, Nov. 8th, 1913, p. 1328.

International Clinics.

Twenty-third Series, 1913. Vols. I., II., III., and IV. London and Philadelphia: J. B. Lippincott Company. Vol. I., pp. 302; Vol. II., pp. 312; Vol. III., pp. 303; Vol. IV., pp. 312. Price 35*s.* net the four volumes.

VOL. I. of this series includes diagnosis and treatment, medicine, pædiatrics, surgery, obstetrics, electrotherapeutics, and a review of the progress of medicine during the year 1912. The volume opens with a well-written paper by Dr. George E. Malsbory on the treatment of poliomyelitis, including an opening section on the prevention of the spread of the disease, the question of the possibility of stomoxys calcitrans as an infective agent being considered. Stress is laid upon the necessity for keeping the upper respiratory tract clean, and if the temperature should rise high a hot bath gives much relief. Dr. Francis Reder provides an interesting note upon a sign of diagnostic value in obscure cases of chronic appendicitis. This sign is elicited by rectal palpation. If the finger be passed for some 3½ or 4 inches above the anus an aggregation of circular fibres known as O'Beirne's valve will be felt. When the finger has reached and recognised this and any pain felt by the patient owing to the presence of the finger has subsided, the finger is "gently pushed upward toward the right iliac fossa, when, in the event of an appendix lesion, the finger will touch a point beyond the valve that will cause great pain." Dr. Reder has verified the accuracy of the diagnostic worth of this sign in some 200 cases. We must, however, confess some scepticism as to the trustworthiness of this sign, and we consider a surgeon would be unwise who would decline to operate in the absence of it. A practical and useful paper is contributed by Dr. I. D. Steinhardt on the diagnosis and treatment of scarlet fever. Dr. Albert Abrams discusses the treatment of aneurysms by concussion of the seventh cervical spine, a method which he claims causes contraction of the dilated vessel. In other papers in Vols. II., III., and IV. he refers to this method as an aid to diagnosis, as a means of procuring cardiac contraction, and by a variant of the method—namely, percussion between the third and fourth dorsal spines—he claims to bring about a diminution in blood pressure. In the section on medicine Dr. James Walsh, so well known for his studies in mediæval medicine, reprints an amusing lecture on disease simulation which he delivered at the Fordham University School of Medicine. In the surgical section the most interesting paper is by Dr. J. Torrance Rugh, giving an account of Albee's method of bone-grafting in Pott's disease, with a report of ten cases in which Dr. Rugh performed the operation successfully. He recommends a longer period of support by braces of plaster-of-Paris—namely, eight months or more—after operation than did Albee, who allowed his patients to go without support in from three to six months, but this need for

prolonged support with plaster-of-Paris must raise a doubt as to the efficacy of the bone grafts.

Vol. II. commences with two papers dealing with allied subjects by Dr. G. M. Illman and Dr. H. B. Hemenway respectively. The first is a simple account of the therapeutic indications for antitoxins, serums, and vaccines, while the second, entitled, "Principles of Therapy under Modern Biology," deals with, besides bacterial products, such remedies as atoxyl, lactic acid and its ferment, and the use of citric acid for promoting the fluidity of the blood. Dr. H. W. Frauenthal in a very practical paper gives an account of a system of treating infantile paralysis, lateral spinal curvature, and locomotor ataxy by exercises performed before a mirror, so that the patient can see what he is doing and concentrate his mind on exercising the necessary muscles to overcome the deformity or develop coördination. In infantile paralysis electricity is also used. Dr. A. Rose writes on the continuous warm water bath in tuberculosis and infectious diseases in general. Dr. Rose, who prefers to call tuberculosis by its Greek name of phymatiasis, draws attention to the well-known beneficial effects of the continuous bath in cases of chronic sepsis, such as may follow extensive burns. It benefits by removing septic products and by stimulating metabolism. He claims that it is also of great use in cases of tuberculosis, whether pulmonary or in the bones or joints. Dr. C. H. Browning and Dr. H. F. Watson, writing on paroxysmal hæmoglobinuria, quote six cases under their own care and sundry cases from the practice of others which, in their own words, "constitute a very strong basis for the opinion that syphilitic infection is practically invariably present in cases of paroxysmal hæmoglobinuria *a frigore*." In the section of surgery Dr. P. G. Skillern, jun., of the Philadelphia Hospital, publishes a most interesting account of a year's fracture work at the surgical dispensary of the University (Pennsylvania) Hospital. There were 299 cases of fracture treated during the year 1912, including six cases of fracture of the tarsal bones and three of fracture of the metatarsals. Of the tarsal cases three were of the os calcis, two of the astragalus, and one of the cuboid. In the obstetrical section Dr. J. Wesley Bovee gives his experience of the use of iodine in abdominal surgery. He uses a 3½ per cent. solution in 95 per cent. alcohol, and as a preliminary to opening the abdomen and peritoneal cavity for the treatment of affections of the pelvic structures he injects an ounce of this solution into the uterus. Sometimes the fluid escapes into the peritoneal cavity, but no harm is said to result. In the medico-legal section Dr. Gurney Williams, sometime district police surgeon of Philadelphia, publishes the first part of a paper upon rape in children and young girls. The second part appears in Vol. III., and the whole paper is full of practical points which will be useful to those practitioners who are brought into contact with this class of case.

Vol. III. leads off with two papers dealing with tropical medicine. The first, by Dr. C. F. Craig, of the United States Army Medical Corps, is a simply written account of the prophylaxis and treatment of malarial affections. In the second paper Dr. Baily K. Ashford, also of the United States Army Medical Corps, writes on uncinariasis founded on an experience of the disease at Porto Rico. The clinical features of the complaint alone are discussed. The drug found to give the best results was thymol, but in some cases where this was not well borne beta naphthol was substituted. Dr. Norman B. Gwyn writes upon the treatment of pneumonia as seen at the Philadelphia Hospital during the winter of 1912–13. The paper would have been of greater value if the varying treatments and results had been more clearly tabulated. The section on medicine is devoted to two papers by British surgeons—Mr. Peter Daniel and Mr. E. M. Corner—upon Gastro-intestinal Toxæmia. Mr. Daniel attacks Sir Arbuthnot Lane's views on intestinal stasis, while Mr. Corner recommends careful dieting, purgation, and the surgical removal of obstructions if there be any.

In Vol. IV. we note a paper by Dr. A. B. Hirsh, of Philadelphia, on Newer Methods in the Treatment of Neuritis, of which the chief are radiant light and heat combined with the static wave. Another interesting paper, dealing with static electrical treatment, is contributed by Dr. W. B. Snow, of New York. In the section on medicine Dr. F. Proescher writes upon filterable viruses, such as rabies, poliomyelitis, and variola, and the staining of micro-organisms found in them, which may or may not be the causative organism, by means of the thiazine group of dyes. In the neurological section Dr. Walsh has again an amusing paper upon neurotic discomfort and the law of avalanche, in which he lays stress upon the well-known but little appreciated fact that directly the composition of a quack remedy becomes known its popularity disappears.

Spezielle Pathologie und Therapie innerer Krankheiten.

Edited by FRIEDRICH KRAUS and THEODOR BRUGSCH. Lieferungen 17–24. Berlin: Urban und Schwarzenberg. 1913. Pp. 261–714. Price 2 marks each Lieferung.

THIS excellent text-book on special pathology and therapeutics of internal diseases continues to appear in parts at short intervals. The present instalment maintains the high standard already set. The articles contained in it embrace chapters on Varicella, Variola, and Vaccination, by Dr. E. Mairinger, of Vienna; on Epidemic Parotitis, by Professor J. Citron, of Berlin; and on Measles, German Measles, and Scarlet Fever, by Professor Bruno Salge, of Strasburg. Dr. H. Hetsch, of Hanover, deals with Anthrax. There are a good many illustrations, several in colour and of considerable excellence. We note that Professor Salge does not think that the existence of a "fourth disease," apart from mild scarlet fever and rötheln, is established. He points out also that the endocarditis which may accompany articular complications in scarlet fever is usually benign, but that it seems to have the effect of rendering any subsequent rheumatic valvular affection more severe. In regard to anthrax Dr. Hetsch expresses no definite opinion as to the advisability of operative interference in cutaneous cases, surgeons still holding contradictory views.

Dr. Hetsch also treats of glanders in both man and animals. He summarises the methods of diagnosis in order of importance, and he also is responsible for the articles on Foot and Mouth Disease and on Hydrophobia; in this latter is a coloured plate showing Negri's bodies. Dr. Plaut describes the Mycoses under the headings of moulds, blastomycetes, thrush, sporotrichoses, and streptotrichoses. This section is especially well treated. We cannot at the moment think of any work in which existing knowledge of this comparatively new subject is so ably summarised, both from

a pathological and clinical aspect. The final section deals with Poliomyelitis, by Dr. Paul Römer. To each section is appended an extensive bibliography.

Although we have laid special stress on the section dealing with the diseases associated with fungi, we should add that the other sections are of the same standard. There are numerous illustrations, including coloured plates of the various diseases, drawings of fungi and coloured representations of cultures, which add to the value of the work as a whole.

Therapeutics of the Circulation.

By Sir LAUDER BRUNTON. Second edition. With 111 illustrations. London: John Murray. 1914. Pp. xxiv. + 536. Price 5*s.* net.

THE second edition of Sir Lauder Brunton's book on the therapeutics of diseases of the heart and blood-vessels contains a large amount of information, and illuminates many points in the physiology and pathology of heart disease that are not usually discussed in books dealing with this subject. Compared with the first edition, which was founded on eight lectures delivered in 1905, it shows evidence of rearrangement and much rewriting.

It contains 19 chapters, of which the first six deal, broadly speaking, with the physiology of the heart and circulation. Then follow nine chapters on the pathology and pharmacology of the diseases of the blood-vessels and heart. The last four chapters are devoted to treatment. There is an index most lavishly conceived and executed, and in addition an index of the authors quoted. The volume abounds in references to the literature, and gives a clear picture of modern views of cardio-vascular disease as they present themselves to a highly skilled and scientific clinician.

There can be few British medical men who are unacquainted with the author's lucid style and practical method of exposition. In this book they will find a sound and up-to-date account of the subject dealt with, and full descriptions of the various therapeutic measures employed in the relief of the symptoms of cardio-vascular disease. It may be cordially recommended to students and practitioners of medicine.

Handbuch der Vergleichenden Physiologie.

Herausgegeben von HANS WINTERSTEIN. 41. Lieferung. Band III. Physiologie des Energiewechsels. Zweite Hälfte. Seiten 947–1060, Titel und Inhalt. Jena: Gustav Fischer. 1914.

THIS part completes the story of the Physiology of Reproduction as set forth by E. Godlewski, of Cracow. It deals with heredity in its various aspects, Mendelism, experimental investigations to explain the observed phenomena, polyspermia, and chromosomes. The remainder of the text is taken up with the literature relating to reproduction, the index (which occupies more than 40 pages), and the list of contents.

MISCELLANEOUS VOLUMES.

OBITUARY notices of two surgeons who died during the past year, one a veteran and the other cut off before his prime, appear in the *St. Bartholomew's Hospital Reports*, Vol. XLIX., 1913. (London: Smith, Elder, and Co. 1914. Pp. 192 + 196. Price 6*s.* or 8*s.* 6*d.*) The sympathetic memoir of Mr. Alfred Willett, from the pen of a colleague whose initials are now as well known at Cambridge as they were at St. Bartholomew's, gives an interesting impression of the internal politics of the Royal College of Surgeons of England. Of Mr. R. B. Etherington-Smith there are two charming memoirs, which deal with different phases of his life; the second, written more particularly from the Cambridge point of view, supplementing the first, which is a touching estimate, by a senior colleague, of the irreparable loss sustained by St. Bartholomew's Hospital through the death of "the youngest and certainly the best-beloved of all our surgeons." The medical and surgical papers in this volume of the Reports are seven in number. Dr. A. F. S. Sladden describes a trial of some tests for pancreatic disease, principally Cammidge's test, Loewi's test, examinations of fæcal fat, and Kashiwado's test; Dr. T. H. G. Shore contributes a note on the blood in myelocytic leukæmia in relation to prognosis; Dr. Hugh Thursfield writes on acholuric jaundice and the operation of splenectomy; Mr. D'Arcy Power contributes a paper, read at Düsseldorf last October, on ulcerative colitis and its treatment by appendicostomy; and Mr. A. L. Moreton describes a case of post-orbital arterio-venous aneurysm successfully treated by ligature of the internal carotid artery by Mr. H. J. Waring. Dr. Garnet W. Twigg describes an investigation into pes cavus as an initial sign of nervous disease, with a short introductory note from Mr. R. C. Elmslie. Lastly, Dr. Haldin D. Davis recounts experiences in the skin department with neosalvarsan since September, 1912, briefly describing cases of special interest. Ninety doses were given during the 12 months under review, without accident or regrettable incident, and from a clinical standpoint the results were considered to be good. The Reports close with a descriptive list of pathological specimens added to the Museum and the customary statistical tables of the in-patients treated during 1912, compiled and analysed by the medical and surgical registrars.

In the *Transactions of the American Climatological Association*, 1913, Vol. XXIX. (Philadelphia: The Association. Pp. 367), to select only a few of the papers, Dr. Henry Sewall discusses the auscultatory determination of early pathological changes in the lungs, in which the importance and manner of distinguishing between intrinsically mural and purely visceral vibrations are respectively urged and described, Dr. G. W. Norris the anatomical causes for the differences in the physical signs over the upper lobes of the lungs, and Dr. Philip King Brown the early lesions of tuberculosis of the lungs; Dr. J. C. Wilson treats of blood spitting in heart disease; Dr. P. M. Carrington considers favourably the relations of the San Diego (California) region to renal diseases; Dr. Guy Hinsdale describes the mineral springs of America in their chemical, physical, and therapeutical characters; Dr. Robert H. Babcock inquires into the cause of bronchial asthma, and summarises our knowledge of the relation between asthma and nasal disease in the light of anaphylaxis; Dr. James M. Anders describes the rôle of physical exercise in the open in the prophylaxis of tuberculosis; Dr. Cleveland Floyd describes the methods, uses, and limitations of artificial pneumothorax in chronic pleuritic and pulmonary infections; and Dr. H. L. Barnes and Dr. F. T. Fulton report 17 far advanced and progressive cases of pulmonary tuberculosis thus treated, in which 12, or 70 per cent., had life prolonged. A year's observations of symptoms in cases of advanced tuberculosis in the Los Angeles County Hospital in connexion with weather conditions are detailed by Dr. C. C. Browning; Dr. W. C. White and Dr. Paul Shuey discuss the influence of smoke on acute and chronic lung infections; Dr. Judson Daland reports some clinical observations on blood pressure; and Dr. Joseph H. Pratt discusses the action of carbonic acid baths on blood pressure in cardiac disease; the effect of climatic changes on rheumatism and neuritis is dealt with by Dr. James Dudley Morgan. There are many other papers dealing with various subjects in internal medicine less intimately connected with climatology. The volume also contains memorials of the late Dr. C. T. Williams, Dr. R. G. Curtin, and Dr. E. L. Shurly.

Dr. CHARLES J. RYAN'S *Health Preservation in West Africa* (London: John Bale, Sons, and Danielsson, Limited. 1914. Pp. 96. Price 5*s.* net) is devoted mainly to the personal measures necessary for the preservation of health in West Africa, in four different colonies of which land the author has resided, but, as he himself states, much of what he has to say is applicable to tropical countries in general. It is quite true, as the author states in the preface, that some individuals survive, and even thrive, there who are

regardless of care; but he very properly insists that this immunity is extremely rare indeed, and to argue that all can do what a few have done is contradicted by experience in every event of life. The book gives in Chapter I. a brief statement of the nature, causation, and characteristics of the principal tropical diseases encountered on the coast. In Chapter II. the necessary personal preventive measures are described. Chapter III. deals with camp sanitation, while Chapter IV. discusses the hygiene of diet, bathing, exercise, and so forth. Sir Ronald Ross, in an introduction, tells us that, while organised sanitary measures have been exceedingly efficacious, no inconsiderable part of the improvement in health that has taken place in recent years in West Africa is due to the work and advice of medical men, such as Dr. Ryan, "who have spared no effort to persuade Europeans there to do their best to protect themselves against the ever-present infections which caused such havoc among their predecessors," and he highly commends the contents of the book. Our survey of the book confirms Sir Ronald Ross's opinion. ——*Lessons in Elementary Tropical Hygiene, for the Use of Pupils in Tropical Schools*, by HENRY STRACHAN, C.M.G., L.R.C.P. Lond., &c. (London: Constable and Co., Limited. 1913. Pp. 116. Price 1s. net), treats in the simplest possible language of the most important diseases of hot climates, and instructs the children what they should do to avoid getting ill; there is also some elementary information as to air, water, food, and general sanitation. The pages on disease prevention are written very clearly, and are well adapted to a child's comprehension. They are also illustrated by numerous figures, though these are too small for use by children; probably they are reductions of diagrams. The latter part of the book is so highly compressed as to be difficult of assimilation by the youthful mind; it is probably meant to furnish a groundwork for oral teaching. The percentage composition of foods is hardly to be grasped by young children; and if the figures are given the protein constituents should not be called "nitrogen" (page 92).——In a handy little pocket book, *Indian Home Nursing* (Simla: St. John Ambulance Association. 1913. Pp. 194), Major R. J. BLACKHAM, C.I.E., R.A.M.C., has succeeded in compressing a very large amount of information, adapted to the syllabus of the St. John Ambulance Association. All the matters that are likely to come under the notice of the nurse are dealt with, and the directions are clear and concise. It may be safely recommended.—— We noticed the issue of the same author's *Indian Manual of First Aid* in THE LANCET so recently as June 7th, 1913, and now we have before us the fifth edition (Calcutta: Thacker, Spink, and Co. 1914. Pp. 189). The exhaustion within a year of four editions says all that need be said as to the usefulness of the book. The present issue is increased in size by some 15 pages, and several new illustrations have been added. The book is now the official text-book of the Indian Branch of the St. John Ambulance Association, and will be the standard book for all ambulance competitions in India. An Urdu translation has been issued, and translations into other Indian vernaculars are nearly ready.

With the possibility or otherwise of successful invasion of England by Germany and the abstract side of the question of voluntary *versus* compulsory military service, as discussed in *A German Invasion* (London: P. S. King and Son. Pp. 52. Price 1s.), by Mr. HENRY SEWILL, M.R.C.S., we do not feel called on to deal; the last few pages, however, deal with social problems as affecting the subject, and the author expresses satisfaction with our condition as compared with that of other countries in regard to the falling death-rate and the reduction in infant mortality. He considers (in which many will not agree with him) that our educational system is proceeding on right lines, and that in the promotion of public health a most urgent factor is slum abolition, in which he will command more general assent, and he deplores the evil effects on the race that must follow a blind system of artificial selection by the voluntary limitation of families.

JOURNALS AND MAGAZINES.

Journal of Pathology and Bacteriology. (Official Organ of the Pathological Society of Great Britain and Ireland.) Vol. XVIII., No. 3. Published from the Department of Pathology, University of Cambridge. Price 7s. 6d.; yearly subscription £1 1s.—Stuart McDonald and W. T. Sewell contribute a note on Malakoplakia of the Bladder and Kidneys in a girl, aged 24, who suffered from renal symptoms, and in whom a perirenal abscess due to B. coli was found. After death there were found in the kidneys and bladder tumours of the type to which v. Hansemann has given the name of malakoplakia. This is the first recorded case in which the kidney has been affected, and the authors suggest that the condition is due to the presence of certain cell-rests of developmental origin, which have been stimulated to activity and have degenerated, possibly under the influence of B. coli.—In a paper on the Technique of Cultivating Adult Animal Tissues *in Vitro*, and the Characteristics of such Cultivations, A. J. Walton describes fully the Carrel technique of the cultivation of the spleen, thyroid, kidney, testicle, and liver of the adult rabbit. The cultivations were successful in practically all cases.—J. W. M'Nee records a number of experiments on hæmolytic icterus. He notes that, as the result of their experiments on the effect of AsH_3 on geese whose livers had been removed, Minkowski and Naunyn in 1886 came to the conclusion that the liver is essential for the production of jaundice, and that true hæmolytic jaundice cannot occur. M'Nee, repeating their experiments, concludes that while it is uncertain whether true hæmolytic icterus can occur, no marked jaundice occurs in geese as the result of the administration of AsH_3 after removal of the liver. This is due, he thinks, to the absence of the endothelial cells of v. Kupffer, which split off the iron part of the hæmoglobin molecule and set free the pigment portion. In dogs in whom jaundice has been produced by toluylendiamin the appearances presented by the endothelial cells of the liver are the same as those seen in geese poisoned by AsH_3. Allowing for the greater importance of the spleen in higher animals, the pathology of hæmolytic icterus is probably much the same in man and dogs as in geese.—W. Henwood Harvey describes a congenital fusiform aneurysm of the first part of the aorta in a young rabbit three months old.—Sheridan Delépine describes the arsenious acid-glycerin-gelatin (arsenious jelly) method of preserving and mounting pathological specimens so that they retain their natural colours, and the use of new forms of receptacles for keeping museum specimens, a method which he claims as superior to the Kaiserling potassium-acetate-glycerin method.—A. C. Houston, in a note on water storage and its advantages, replies to Myer Coplans' criticism of the storage method of water purification, contained in the *Journal of Pathology and Bacteriology*, Vol. XVII., p. 367.—Adam Patrick, in remarks on typhoid bacilluria, with a description of certain atypical coli-typhoid bacilli found in the urine in enteric fever, notes that in 6 out of 17 unselected cases of bacilluria occurring in enteric fever the bacilli present were not B. typhosus but atypical (somewhat unstable as regards their fermentative powers) members of a typhoid-coli group. In four out of the five cases where agglutination tests were performed, the bacilli were unaffected by stock antityphoid serum, but were clumped by the patient's serum.—E. E. Glynn, M. Powell, A. A. Rees, and G. L. Cox, in Observations upon the Standardisation of Bacterial Vaccines by the Wright, the Hæmocytometer, and the Plate Culture Methods, claim that the most scientific method of enumerating bacteria for vaccine purposes is by the use of some form of hæmocytometer chamber.[1] The ordinary chamber, 0·1 mm. deep, may be used, but one 0·02 mm. deep gives slightly better results; an optically plane coverslip must be used, with a weak solution of carbol thionin as diluting and staining fluid. The results obtained are considerably more accurate than those given by the Wright method or than those obtained by the plate-culture methods. —R. A. Chisholm, in a paper on the Water Content of the Tissues in Experimental Nephritis, points out that acute and extensive necrosis of the renal tubules in the rat, whether produced by uranium nitrate, potassium bichromate, or potassium chromate, leads, when excess of Ringer's fluid is given intraperitoneally, to an excess of water in the kidneys, muscles, and subcutaneous tissues, and in these only, with the possible exception of the alimentary canal. He notes, too, that the presence of subcutaneous œdema is not a measure of the amount of water present in the muscles and subcutaneous tissues.—This number contains an obituary notice of Theodor Albrecht Edwin Klebs, and the Proceedings

[1] THE LANCET, April 11th, 1914, p. 1028

at the January meeting of the Pathological Society of Great Britain and Ireland.

British Journal of Inebriety.—The April number is mainly devoted to articles dealing with the treatment of the inebriate, and more particularly the male inebriate, from the point of view of institutional management. The Rev. S. Scobell Lessey, M.D., Chaplain-Superintendent of Abbotswood House, lays special stress on the value of religious influence as the most effective psychotherapeutic agency in the cure of intemperance. In the institution under his charge, where this influence is relied on to the practical exclusion of any other, he claims that from 50 to 60 per cent. of the cases which have passed through his hands have been permanently benefited. The application of this method presupposes, of course, the willing coöperation of the patient, and Dr. Lessey is very definitely of opinion that without such coöperation nothing can be done to cure inebriety. Amongst the practical difficulties which interfere with the successful management of inebriate homes Dr. Lessey especially notes the lack of means for dealing with refractory and undisciplined patients, and he expresses the hope that power may eventually be given to transfer such patients to a State institution with a more penal *régime*, as is done now in the case of drunkards committed to retreats under the provisions of the Act of 1898.—Mr. J. W. Astley Cooper supports Dr. Lessey's demand for larger penal powers for dealing with incorrigible and troublesome patients, and also demands that the present principle of ordering institutional treatment for specified periods should be abandoned in favour of a system of detention until cure. It hardly seems quite consistent with this view that Mr. Cooper should maintain, as he does, that the coöperation of the patient is one of the main principles on which the successful institutional treatment of inebriety must depend.—In contrast with the advocates of compulsory methods, Dr. Francis Hare describes the free system followed at the Norwood Sanatorium as avoiding some of the most serious difficulties met with in the management of patients under enforced detention; and Dr. H. Crichton Miller, in a brief but interesting paper, argues that the various methods proposed for treating the inebriate are fundamentally alike, though their advocates may not recognise the fact, in that they all aim at bringing about a readjustment of the psychic mechanisms underlying habit.

ROYAL STATISTICAL SOCIETY.—At an ordinary meeting of this society on Tuesday, May 19th, at 5 P.M., at the Surveyors' Institution, 12, Great George-street, S.W., a paper on Suggestions for Recording the Life History and Family Connexions of Every Individual will be read by Mr. Walter Hazell.

LITERARY INTELLIGENCE.—Messrs. J. and A. Churchill announce the publication of a new work on "Operative Surgery: the Head and Neck, the Thorax, and the Abdomen," by Edward H. Taylor, professor of surgery in the University of Dublin. All the illustrations, 300 in number, are from original drawings, many being in colours. The same firm also announce new editions of the "Practice of Medicine," by Frederick Taylor, M.D., F.R.C.P. (tenth edition, thoroughly revised, with many new illustrations and skiagrams); "A Manual of Bacteriology," by R. Tanner Hewlett, M.D., F.R.C.P., D.P.H. (fifth edition, with 69 illustrations); and "Elementary Practical Chemistry," Part II., by F. Clowes, D.Sc. Lond., and J. Bernard Coleman, A.R.C.Sc. Dub. (seventh edition).—Messrs. John Bale, Sons, and Danielsson, Limited, announce the forthcoming publication of "The Problem of the Nations: A Study in the Causes, Symptoms, and Effects of Sexual Disease, and the Education of the Individual Therein," by A. Corbett-Smith, M.A. Oxon., editor of the *Journal of State Medicine*.—Messrs. P. Blakiston's Son and Co., Philadelphia, announce the forthcoming publication of a practical work dealing with the ills engendered by the vocations and avocations of all classes of society. The book will be under the joint editorship of Dr. George M. Kober, of Washington, D.C., and Dr. W. C. Hanson, of Boston, Mass. Among the contributors are Sir Thomas Oliver, Dr. T. M. Legge (London), Dr. Teleky (Vienna), Dr. Devoto (Milan), Dr. Edsall (Harvard), and Dr. Alice Hamilton (Chicago).

New Inventions.

NEW MOUTH GAG.

THE accompanying illustrations show a mouth gag which is specially adapted for ear and throat surgeons and for the dental profession, but can be used in all cases where a gag is required. The improvements over existing ones are: (1) the limbs of the cheek portion are long, the joint being set well back—an essential in easy enucleation of the tonsils by Sluder's method; (2) the ratchet method of opening gives great force, with a gradual yet rapid opening of the mouth, a desideratum when operating without an anæsthetic: there is also less danger of breaking or extracting the teeth; (3) there are no projections, as the thumb piece which operates the ratchet is provided with a tumble joint, permitting it to lie flat against the cheek; and (4) the alveolar projection is at an acute angle so that it enters the mouth between the incisor teeth at right angles to them, giving the gag a firm hold with less tendency to slip than is usually the case.

The mouth gag.

The mouth gag in use.

My thanks are due to Messrs. Allen and Hanburys, Limited, of Wigmore-street, London, W., for the manner in which they have carried out my suggestions in the construction of the instrument.

FREDERICK W. SYDENHAM, M.D., F.R.C.S. Edin.

Walsall.

A MODIFIED TONSILLECTOME.

THE accompanying illustration shows a modified tonsillectome specially designed for the enucleation of tonsils by Sluder's method. The principle involved is that of the *blunt* dissection of the tonsil from its bed by a movable blade which is about one-sixteenth of an inch thick at its tonsillar end, but ground off so as to form one of two scissors blades. At the stage where the blade is driven almost completely home, and the tonsil is bulging on the far side of the ring, the final division of the mucous membrane and strands of fibrous tissue that bind the deep surface of the tonsil to its bed is completed by the meeting of the scissors edge of the movable blade with that of a fixed blade contained in the ring of the instrument through which the tonsil has been squeezed. By this means the advantages of blunt dissection are preserved, yet cutting blades are provided at the very

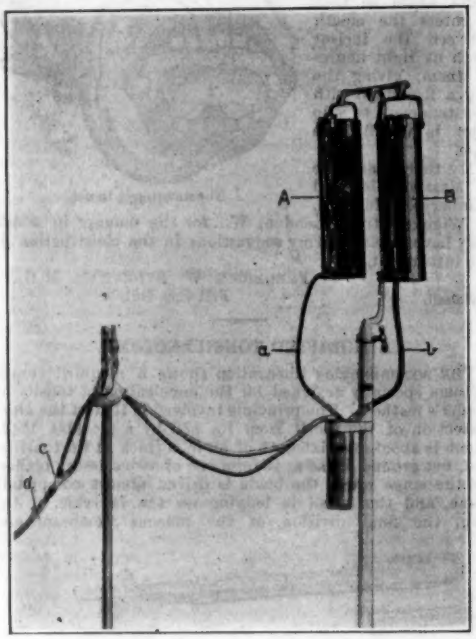
moment they are required, and the tonsil comes away at once in the instrument without any twisting and pulling whatever. The hæmorrhage is only slight, and this is probably explained by the fact that the vessels, being first stretched and then cut across by scissors blades, have their lumens occluded much in the same way that the bore of a rubber drainage tube is closed by cutting it with a pair of scissors. The blade portion comes apart readily into three pieces—the blade itself, the bed in which it travels, and the spring (which controls the blade, holds the tonsil after removal, and locks the parts together). It is thus easily cleaned and sterilised. This instrument, which I have used in a large number of cases with perfectly satisfactory results, can be fitted with a handle giving either the Heath or the Mackenzie position.

It has been made for me by Messrs. Mayer and Meltzer, of Great Portland-street, London, W.

Edinburgh. K. G. HEARNE, M.B. Edin.

A SIMPLE APPARATUS FOR SALINE INFUSION DURING HEDONAL ANÆSTHESIA.

THE following is a description of a modification of Page's well-known apparatus for administering hedonal to enable normal saline to be substituted for the hedonal solution during the operation with a minimum of trouble to anæsthetist and patient. To the hedonal stand is added a second cylinder of the Page type, labelled "Saline." This is fitted with tubing and glass dropper. It is attached to the hedonal system by a Y-shaped glass tube (*c*). From the common limb of the Y a single tube connects with the cannula, so serving to convey fluid from either cylinder into the vein. On this common



A, Hedonal cylinder. B, Saline cylinder. *a*, *b*, Tubing and glass dropper attachments. *c*, Y connexion. *d*, "Two-way" tap.

tube is a two-way tap (*d*), with a side opening leading to the exterior. By adjusting the tap the stream from the cylinders may be temporarily diverted through this lateral opening. The object of this manœuvre will shortly be apparent. During the induction and early stages of anæsthesia the saline system is shut off by keeping the cylinder tap closed. When it is desired to substitute normal saline for the anæsthetic fluid the two-way tap (*d*) is adjusted so that the stream passes through the lateral opening, the hedonal cylinder tap is closed, and the saline cylinder tap is opened. By this means all the air previously present in the saline system is expelled through the lateral opening of the two-way tap. When this has been accomplished, this tap has only to be readjusted and the saline is now flowing through the cannula into the vein. Should the patient require more of the anæsthetic at any period of the operation the process is simply reversed.

The accompanying figure illustrates the apparatus in use. It has been found very satisfactory in practice at Great Ormond-street, and has been made for me by the Holborn Surgical Instrument Company, Thavies Inn, Holborn-circus, London, E.C.

T. TWISTINGTON HIGGINS, M.B., B.Ch. Vict., F.R.C.S. Eng.

Hospital for Sick Children, Great Ormond-street.

A NEW COLOSTOMY TUBE.

A NOT uncommon result of the operation of colostomy performed either with or without the aid of a Paul's tube for cases of acute intestinal obstruction is that the colostomy fails to act for a period varying from a few hours to several days, and in a few cases may even fail to act at all. The various remedies—e.g., eserin, pituitary extract, &c.—commonly employed usually have little or no effect, and even the removal of the Paul's tube often yields the same negative result. Dilatation of the colostomy by means of a finger inserted into the bowel usually gives temporary relief, but in a certain number of cases the abdomen becomes more and more distended, the patient suffers increasing pain, and finally dies. This failure of the colostomy to act may to a small extent be due to paralysis of the distended intestine, but I think it is mainly due to an obstruction produced by a kinking of the bowel just as it leaves the abdominal cavity. To overcome this difficulty I have recently been using a curved colostomy tube which is introduced into the interior of the bowel, and when in position extends beyond the site of the kink and prevents any obstruction at that point. It is used in the following way. After the wound has been sutured and the projecting loop of intestine isolated by gauze, a purse-string suture is inserted into a portion of the intestinal wall and an opening made in the centre of bowel wall thus enclosed. The curved end of the tube is then inserted into the opening and pushed into the lumen of the proximal limb of the loop of intestine until the whole of the curved portion has passed through the abdominal wall. Care should be taken to rotate the tube so that the internal or proximal orifice faces the direction of the flow of intestinal contents. The purse-string suture is next tied tightly over one or more of the four flanges provided for the purpose, and a curved glass junction with rubber tubing is fixed to the outer or distal orifice of the tube. The rubber tubing can subsequently be led into a receptacle at the side of the bed. Gas and liquid fæces usually escape at once, but should this not occur, the introduction of two or three ounces of glycerine through the tube into the bowel will produce an evacuation of intestinal contents within a few minutes. The colostomy tube is removed about the fourth or fifth day when the purse-string suture sloughs out. The tube is made of rubber to minimise the possibility of pressure ulceration of the bowel within the abdominal cavity. The internal diameter measures half an inch, and is sufficiently large for the passage of the liquid contents of the intestine in cases of acute obstruction.

Messrs. Allen and Hanburys, Limited, of Wigmore-street, London, W., have made the tube for me.

St. Thomas's Hospital, S.E. B. C. MAYBURY, F.R.C.S. Eng.

ROYAL DEVON AND EXETER HOSPITAL.—At the meeting of the governors of the Royal Devon and Exeter Hospital which was held last week it was decided to erect a new wing to provide accommodation for the nursing staff. The approximate cost of the scheme was stated to be £5900, but it is hoped that the expenditure will be reduced by a modification of the plans

THE LANCET.

LONDON: SATURDAY, MAY 16, 1914.

The Prevention and Treatment of Tuberculosis in London.

WE have received the report of an inquiry by the Charity Organisation Society in regard to the prevention and treatment of tuberculosis in London. After reference to the confusion which had resulted owing to action taken by several bodies directly interested in the matter, especially the Local Government Board, the London County Council, the London Insurance Committee, and the Metropolitan Asylums Board, a review is taken of the various factors which created the situation that had arisen when the inquiry was commenced. The foremost of these factors was the provision of treatment under the Insurance Act in cases of tuberculosis. The second factor, of scarcely less importance, was the Order of the Local Government Board of November, 1911; by this Order sanitary authorities were empowered to treat pulmonary tuberculosis in the houses of the patients, and were invited in a circular letter to form schemes with this object. The third factor was the publication of the Interim Report of the Departmental Committee on Tuberculosis in April, 1912, and of the Final Report in March, 1913. These were the three chief points in the position when the Charity Organisation Society decided upon its inquiry. After careful consideration it was arranged to take the report of the Departmental Committee as a basis, and to apply the test of their recommendations to the existing condition of affairs in London, in order to discover how far their proposals had been carried out, how far the present machinery rendered this possible, and what prospects there were that any defects discovered would be remedied.

The dispensary being the central feature of the recommendations of the Departmental Committee, visits were paid to dispensaries of different types now at work in London. An interesting account is given of the work carried out by these institutions, and then the position in London with regard to the provision of sanatoriums, hospitals, and other institutions in which tuberculosis can be treated is considered. An account is next given of the negotiations by public authorities which took place in 1912–13; the whole course of events illustrates in a remarkable way the dangers and difficulties involved by divided authority. Finally, the conclusions arrived at by the Charity Organisation Society as the result of the inquiries are recorded. This body has warmly supported from the first the adoption in London of what is now known as the dispensary system for the prevention and treatment of tuberculosis. The society has had long experience in dealing with tuberculosis among working people, and is convinced that no measure of attack upon the disease has any chance of success unless it begins and ends with the home. Unless the patient is followed there and both he and his surroundings are adequately dealt with, the provision of treatment in institutions or by other means is futile. We have repeatedly expressed the opinion that the eradication of tuberculosis is inextricably bound up with betterment of the housing of the working-classes. We must keep this in view, but unless suitable and practical instruction is afforded and supervision is supplied to see that that instruction is carried out, the value of sanatorium and hospital treatment will be very seriously diminished. It is the opinion of the Charity Organisation Society that in order to secure elasticity of working the dispensary should be a voluntary institution. Voluntary institutions certainly have great advantages over municipal ones, and we agree that the strongest argument against the latter, as at present conducted, arises from the circular of the Local Government Board of Dec. 6th, 1912. This circular states: "It is not, in the Board's view, desirable that the dispensary officer should undertake ordinary domiciliary treatment," and, further, "in the case of insured persons the cost of domiciliary treatment will be paid out of the funds of the Insurance Committee, in other cases by the patient or someone acting on his behalf." If uninsured persons are not satisfactorily treated in their own homes in the same manner as the assured, naturally the fight against the disease is materially weakened. The financial difficulty, however, at once arises. Whence are the funds for voluntary dispensaries to be derived? Subscriptions, and especially donations to the special hospitals, show a considerable falling off since the introduction of "sanatorium benefit." The taxpayer naturally objects to contribute both ways. But, on the other hand, there are difficulties in the opposite direction, which to some extent support the society's view. The local boroughs are already finding great difficulty in obtaining financial assistance from the Insurance Committee in order to pay the salaries of the medical officers attached to the municipal dispensaries, and their resources are considerably hampered thereby. The reason given for the refusal is, we are informed, that the duty of seeing the patients in their own homes falls upon the doctors on the panel. The committee seems to have lost sight of the fact that special experience is required, especially in regard to diagnosis and the examination of contacts, and we entirely agree with the point emphasised in the report that it is essential that the medical officer in charge of the dispensary should visit the homes of the patients, and naturally the Insurance Committee should contribute towards the salary of that officer.

With regard to dispensaries as departments of

special and general hospitals, the society notes, in the first instance, that the dispensary as an isolated unit is manifestly incomplete. It is necessary that every dispensary should work in close touch with a hospital, so that a consultant's opinion may be available and in order that patients may secure such special diagnosis and treatment as hospitals alone can provide, not only in tuberculosis but in other disorders which may occur in conjunction with it. Too much stress cannot be laid on this point. We are glad to note that the inquiry has demonstrated the need for observation beds in certain cases to enable the diagnosis to be established and a reliable estimate to be arrived at as to the form of treatment desirable. The report pays due attention to the point that, as the education of the profession depends upon the hospitals, it is essential that patients suffering from tuberculosis should not cease to attend them. The adoption of the dispensary system might involve a reduction in the out-patients, but there would be many who would still come. The recommendation is made that students should attend at dispensaries for instruction, and that where possible dispensaries should be directly associated with schools of medicine. If it can be arranged that members of the hospital staff may teach at the dispensary, such a course would naturally follow, but unless the dispensary is within the walls of the hospital or in the immediate neighbourhood the proposal would be open to many objections. If students were obliged to go to dispensaries at some distance from and unconnected with the hospital in order to see tuberculous cases such a plan would tend to divorce a study of tuberculosis from that of other morbid conditions, and such an event must be avoided. The remarks on the provision of various types of institutions for the treatment of patients affected with different forms and stages of tuberculosis meet with our entire approval, and we cordially agree that sanatoriums should be especially provided for selected patients capable of graduated work. Here as elsewhere the report shows evidence of careful inquiry and judicious thought. We especially commend the plan of linking up the dispensaries with special and general hospitals, but we doubt whether the voluntary system can be thoroughly carried out on account of the lack of funds, though with the assistance of contributions from the Insurance Committee a good scheme could without doubt be elaborated. There are some important points not fully considered in the report, such as, for instance, the appointment of referees with prolonged experience in tuberculous cases, in order to see and classify patients, and to determine the institution to which they should be sent or the treatment which would be recommended. To draw up a complete scheme for the prevention and treatment of tuberculosis is a most difficult matter, but the suggestions and recommendations contained in the report of the Charity Organisation Society are worthy of great respect and close attention.

The Plea for Immediate Operation in Appendicitis.

DURING the last few days we have received for review two important books[1] on appendicitis and its treatment, which sufficiently prove that the surgical world has not arrived yet at a common view as to the measures to be adopted; the question of immediate operation or delayed operation is still alive, for there would be no necessity for the expressions of forcible opinion upon a settled manner. Some 25 years have now elapsed since the affections of the appendix first became at all widely recognised, though in medical literature we are able to trace here and there indications which go to show that the appendix as a source of disease was by no means so unknown as might be thought. It is only since 1889 that the pathological importance of the appendix has been widely taught. At first the true frequency of the affection was not fully appreciated, but before long all came to understand that the appendix was responsible for many diseases which had been ascribed to other organs. Yet from the first there was a remarkable difference of opinion between many of those who had specially devoted attention to appendicitis. There were some who held that very many cases of the disease would recover spontaneously, provided that care was taken not to aggravate the condition by injudicious exertion, diet, or medicine, and that in only a small minority of cases was it necessary to have recourse to operative procedures, and therefore they believed that in nearly all cases the best treatment was to put the patient to bed, to regulate his diet, and to watch for signs and symptoms that the disease was proceeding in the wrong direction. They considered that if the pulse, the pain, and the temperature were showing obvious signs of improvement the assistance of the surgeon should not be invoked; while if the temperature should rise, if the frequency of the pulse should increase, if the pain should become more severe, or if evidence of an abscess should appear, then the surgeon should be asked to intervene. On the other hand, there were those who believed that while the inflammation of the appendix, being undoubtedly present, might at any moment extend to the adjoining peritoneum, and while a sloughing appendix might at any moment rupture into the peritoneal cavity and set up an acute suppurative peritonitis, it was not possible for diagnostic skill to say when these catastrophes might occur; therefore they insisted that it was above all things important that the peccant organ should be removed at the earliest possible moment.

The majority of those who held the former view

[1] Appendicitis: a Plea for Immediate Operation. By Edmund Owen, F.R.C.S., D.Sc., Hon. Surgeon to the French Hospital, Consulting Surgeon to St. Mary's Hospital and to the Hospital for Sick Children, Great Ormond-street, London. Bristol: John Wright and Sons, Limited. 1914. Pp. 214. Price 3s. 6d. net.
Appendicitis: its History, Anatomy, Clinical Ætiology, Pathology, Symptomatology, Diagnosis, Prognosis, Treatment, Technic of Operation, Complications, and Sequels. By John B. Deaver, M.D., Sc.D., LL.D., Professor of the Practice of Surgery, University of Pennsylvania. Fourth edition. 14 illustrations. London: William Heinemann. 1914. Pp. 379. Price 17s. 6d. net.

were physicians, and the majority of the supporters of the second view were surgeons, but it is also true that amongst those who were in favour of a waiting policy could be found no small number of surgeons, some of whom are of the same opinion still. Though more than two decades have elapsed since this cleavage of professional opinion first appeared, the same two classes still exist, and this fact justifies us in returning to the matter. There are still with us those who advocate a waiting policy, who still hold that it is possible to say from the signs and symptoms present which case will recover from an attack without an operation and when an operation is really demanded. Now it is a fact that no small proportion of the cases of appendicitis do recover from a first attack of the disease without any operation, and many of these may never have a subsequent attack. It is also true that in many serious cases it is possible from the pulse and temperature to say that the attack is severe and that it is rapidly growing worse. On the other hand, those who advocate immediate operation may admit that while many mild cases of appendicitis will recover without any operative procedure, and also that many severe cases manifest their severity in time for operative treatment, yet they hold, and hold strongly, that there are not a few urgent cases in which the signs and symptoms of the disease give no hint of severity. Even the general condition may improve with rest in bed, while an intense inflammation may be present in the appendix, and any delay in operation in such circumstances may afford time for the inflamed appendix to rupture, to discharge its contents into the peritoneum, and thus lead to a fatal issue. They maintain that the pulse may lessen in frequency, the temperature may fall, that the sharp pain of the commencement of the attack may disappear, yet the virulence of the inflammation may not have abated in the very least, and the danger to the patient has not altered in the slightest; that, indeed, the danger may have increased, and that the very abatement of the severity of the symptoms may sometimes be directly associated with the increase of the severity of the local condition. From these facts, or at least from these opinions, they claim that it is impossible to deny that a patient who appears to be only slightly ill may be in danger of a rapid death unless the appendix is removed with the least possible delay. It cannot be doubted by anyone who has paid attention to the trend of opinion in this matter that the number of the adherents of the plan of immediate operation is steadily increasing. Many surgeons who have started with the idea that it is not unsafe to delay operation while the patient is kept under observation have been compelled to change their views by the occurrence of cases in which without warning a general peritonitis has appeared.

One of the most earnest advocates in this country for the immediate operation is Mr. EDMUND OWEN, and in his valuable work he has expressed his views with the eloquence and energy which are so characteristic of both his spoken and his written word. In the spring of 1913 there was a discussion on the subject of appendicitis at the Medical Society of London, which was opened by Mr. OWEN, and no one who was present on that occasion will forget the impressive terms in which he set forth his views. In this book we find the arguments then employed stated more fully, and combined with them a general account of the disease, its symptoms and the method of operation for the removal of the appendix. The teaching of the work may be summed up in the sentence that a patient with an inflamed appendix will not be free from danger till that appendix is removed, and that the sooner it is removed the better.

Professor DEAVER'S work on appendicitis, though built on different lines, appears to us to have been written with the idea of delivering to the medical profession the same message—namely, the immense importance of an immediate operation in every case of appendicitis. We are told emphatically that "there is no logical escape from the principle of immediate operation in acute appendicitis." Though the etiology and symptoms of the disease are described they are subordinated to the question of the operative treatment. The author shows that medical literature of the past contains a large number of references to abscesses and inflammations in the neighbourhood of the cæcum, and in some of these the appendix itself is mentioned as the apparent starting-point of the disease, an indication that we are not face to face with entirely new pathological conditions as some observers, irritated with our ignorance as to etiology, have sweepingly declared. And in the chapter on the symptomatology he makes a point which is to some extent confirmed in an interesting account by Mr. BATTLE of some operations for appendicitis which we publish in THE LANCET this week. There is, says Professor DEAVER, no constant relationship between the symptomatology and the pathological alterations. This is indeed the most important fact to bear in mind with regard to the symptoms of the disease.

THE FRENCH HOSPITAL. — The forty-sixth banquet of the French Hospital took place on May 9th at the Hotel Cecil. The French Ambassador was unfortunately unable to be present, and the chair was taken by Monsieur de Fleuriau, Councillor to the Embassy. There were present representatives from all the other embassies, also the Lord Mayor and the sheriffs, while the medical and surgical staffs were fully represented. There were about 250 present, and subscriptions amounting to £4500 were announced. The French Hospital contains 75 beds, and there are 60 beds at the convalescent home at Brighton. Thirty of these are for aged pensioners, and the remaining 30 are for convalescents. The hospital in London is for all French-speaking people, but there are to be found in the wards patients of almost every nationality. Last year a well-appointed operating theatre was opened, and this year a pathological laboratory has been added.

Annotations.

"Ne quid nimis."

RECENT RESEARCHES ON YELLOW FEVER IN WEST AFRICA.

THE subject of yellow fever has of late attracted considerable attention, particularly in view of the possible danger of the extension of the infection after the opening of the Panama Ship Canal. The endemicity of the disease in certain defined areas is well known, and among those which specially concern this country is that part of the West African Coast situated between the French territory of Senegal on the north and the German Cameroons on the south. In this region are situated the four British colonies of the Gambia, Sierra Leone, the Gold Coast, and Southern Nigeria, from which the Colonial Office has been collecting information in a systematic way in recent years in order to throw light if possible upon the problems connected with this grave malady. Hitherto investigations concerning it have been hindered by the absence in many cases of any positive clinical symptoms, or definite post-mortem appearances in fatal cases whereby the presence of the disease could be demonstrated beyond a doubt. So long as no specific organism could be recognised, the diagnosis in disputed cases could not be settled satisfactorily. In view of the importance of the subject the Secretary of State appointed a small Commission of experts, of which Sir William Leishman and Sir Ronald Ross are members, to examine and study the evidence collected from our colonies and to advise as to the directions in which further investigations might usefully be made. Taking advantage, in 1913, of an outbreak of what seems to have been undoubtedly true yellow fever in Lagos and other places in Southern Nigeria, Dr. J. W. Scott Macfie and Dr. J. E. L. Johnston, of the West African Medical Staff, conducted a series of experiments and observations at the Institute for Medical Research at Yaba, near Lagos, and their results have now been published in the current number of the *Yellow Fever Bureau Bulletin*, Vol. III., No. 2.[1] These investigators carefully examined the blood of the persons attacked, and in practically every instance they found in the red corpuscles certain bodies indistinguishable from those described in 1909 by Dr. Harald Seidelin and discovered by him in the blood of yellow fever cases in Yucatan, to which he has given the name of paraplasma flavigenum. Experimental animals, such as guinea-pigs, dogs, and rats, were successfully inoculated in the Yaba Institute from human cases; and of 11 stray native dogs sent from Lagos for examination two were found to have the paraplasma "bodies" in their blood—instances, it is believed, of the infection naturally acquired. Guinea-pigs could be inoculated with success as late as the eighth day of the disease. In some human cases these yellow fever "bodies" were found in the circulation some days after the fever had subsided and when the patient to all appearances was convalescent. Dr. Macfie and Dr. Johnston believe that the paraplasma is the specific parasite of yellow fever and capable of infecting the stegomyia fasciata, the insect transmitter of the disease to man. Dr. Seidelin, we learn, has had an opportunity of examining some of the blood films from Lagos and has confirmed the presence in them of the paraplasma flavigenum. Before these results are accepted by the scientific world they will have to be repeated and confirmed by other competent experts, and should the experiments be repeated with success it is obvious that a very great advance will have taken place in our knowledge of the disease. It will then be possible to apply a bacteriological test in all doubtful cases; it will also be possible to study the life-history of the yellow fever parasite in its vertebrate and invertebrate hosts; moreover, the therapeutic value of remedies for the disease can then be properly studied. It was, we believe, Sir Patrick Manson who first suggested that the endemicity of the malady might be associated with the occurrence of the infection in one or another of the lower animals. Suspicion has been attached in Lagos to dogs and perhaps to rats in this capacity. In THE LANCET of April 25th Dr. Andrew Balfour suggested the possibility of a certain species of monkey in Trinidad acting there as a reservoir of the virus. It is possible that different animals in different localities may upon occasion foster the endemicity of yellow fever. In the same way in plague, for instance, the rat is responsible in India for keeping a locality infected, the tarabagan in Mongolia, the spermophile in the region between the rivers Volga and Ural, and the ground squirrel in California. No doubt the expert Commission appointed by the Colonial Office will without delay examine the evidence and make a pronouncement on the subject, and this will be anxiously awaited by all who are interested in yellow fever. We are aware that the validity of the claims of Dr. Seidelin to have discovered the parasite of this disease is emphatically rejected by some, in particular by Dr. A. Agramonte, of Cuba, who was a member of the famous commission appointed by the United States Government in 1900, and which did so much to throw light upon the disease and its prevention. Dr. G. C. Low, of the London School of Tropical Medicine, seems also to throw doubt upon the existence of the paraplasma flavigenum as a definite organism.[2]

[1] See also Dr. Johnston's letter to THE LANCET of Dec. 6th, 1913, p. 1660.

HEALTHY MENINGITIS CARRIERS.

EPIDEMICS of cerebro-spinal meningitis occurred from 1875 to 1877 in Norway, and 704 cases of the disease with 247 deaths were reported. The town of Christiania escaped these visitations almost entirely; indeed, only 10 instances of cerebro-spinal meningitis occurred there between the years 1866 and 1910. In 1911 there were 8 cases; in 1912 an epidemic of 200 cases occurred, with 134 deaths. The cause of this visitation remained obscure; it was most severely felt in the most densely populated part of the town, and only in a few instances was there more than a single case of meningitis in a family. Twenty-four of the patients were less than 1 year old, and 83 were between 2 and 5 years of age. It was thought that the spread of the epidemic must be due to healthy carriers of the meningococcus. Accordingly steps were taken from the very beginning of the epidemic to obtain swabs of the pharyngeal mucus from members of the families in which cases of meningitis occurred, in the hope of discovering meningococcus carriers. Ustvedt and

[2] THE LANCET, May 9th, 1914, p. 1357.

Diesen[1] describe the way in which this work was carried out at the laboratory of the Board of Health in Christiania; in all, 797 examinations were made, but the meningococcus was found no more than four times. This result is in direct opposition to the observations made in Silesia and Western Germany during epidemics of cerebro-spinal meningitis, although, as the authors point out, many other observers have reported instances in which no carriers of the coccus have been found in families in which cases of meningitis were occurring.

CHOLECYSTITIS WITHOUT STONES OR JAUNDICE IN ITS RELATION TO CHRONIC PANCREATITIS.

IN the *American Journal of the Medical Sciences* for April Dr. William J. Mayo has published an important paper on cholecystitis without stones or jaundice in its relation to pancreatitis. As he points out, cholecystitis without stones is comparatively common, and of late has come into prominence. The types vary from the mild chronic catarrhal to those characterised by necrosis and perforation. Some uncertainty exists as to when chronic cholecystitis should be considered surgical. It is not infrequently associated with chronic appendicular infections, especially when accompanied by stercoliths. Whether the appendicular infection is the cause of the cholecystitis has not been determined, but it seems possible as bacterial or toxic products are carried in the portal veins to the liver and there destroyed or excreted in a modified form in the bile. The diagnosis of cholecystitis, even when stones are present, is not easy. With the palm an area may be covered which could be involved in pyloric or duodenal ulcer, disease of the gall-bladder, appendicitis, or affections of the right kidney and ureter. Chronic cholecystitis produces two types of gall-bladder: 1. The large, blue, distended gall-bladder which is not emptied by compression. The bile is thin and often fœtid from colon infection. 2. The thick-walled whitish gall-bladder, which is often adherent and usually contains thick and tarry bile with much mucus. In many cases the gall-bladder appears to be normal. As a rule enlarged glands along the common duct can readily be detected. In some cases enlargement of the lymphatics is the only sign that the gall-bladder is probably diseased. It may not be possible to determine the existence of cholecystitis until the gall-bladder is opened. Even then the diagnosis may remain doubtful until the gall-bladder or a portion of its mucous membrane is submitted to a pathologist. Fortunately the "strawberry gall-bladder," which shows yellow specks (the bases of villi denuded of epithelium and stained with bile), is one of the most frequent types. Here radical operations give as high a percentage of cures as in cases of gall-stones, or a higher percentage. But the milder degrees of cholecystitis do not give a high percentage of cures and should be considered medical rather than surgical cases. While cholecystotomy is an efficient procedure in gall-stone disease when the gall-bladder is normal and the ducts free, it is not satisfactory in cholecystitis. Cholecystectomy, Dr. Mayo holds, is largely indicated in gall-stone disease and in practically all cases of cholecystitis. If so much uncertainty exist with regard to infections of the gall-bladder, how much more must exist in infections of the pancreas. The sense of sight cannot aid, as in the examination of the mucosa of the gall-bladder. The diagnosis must be established by the sense of touch and a certain amount of "intuition." For many years Dr. Mayo has made it a practice to examine the entire contents of the abdomen with the gloved hand whenever it is opened for any purpose and the condition of the patient permits. He has been surprised to find how frequently the pancreas shows enlargement, induration, and nodulation, which would have justified a diagnosis of chronic pancreatitis if some disease of the biliary system had been the original lesion, but in which there were no symptoms whatever of pancreatic inflammation. In the routine of the Mayo Clinic several hundreds of stools have been examined in cases of chronic pancreatitis for signs of pancreatic insufficiency. These were rarely found either in cholecystitis or in cases of gall-stones. Hence statistics of the relative frequency of pancreatitis must be accepted with reserve. Yet that chronic pancreatitis does exist, and that it occurs most frequently in connexion with infections of the biliary tract is established. There is a group of cases of chronic cholecystitis without gall-stones or jaundice accompanied by chronic interlobar pancreatitis. There is neither dilation of the common duct nor distension of the gall-bladder. These cases are treated by drainage of the biliary tract, although there is no evidence of back pressure. The fact is disregarded that it is infection of the gall-bladder which has caused the disease of the pancreas, and that this infection probably will not be cured by drainage. In such cases Dr. Mayo holds that the gall-bladder should be removed if it shows evidence of chronic cholecystitis, especially of the "strawberry type." When he did cholecystotomy he found that the patients were relieved during drainage, but the symptoms returned when the fistula closed. Subsequent cholecystectomy cured the patients.

PURPURA VESICÆ AND SIMPLE ULCER OF THE BLADDER.

THE *Wiener Medizinische Wochenschrift* of March 28th is devoted almost entirely to urological subjects, and contains a number of papers by former pupils and assistants of Professor Anton Ritter v. Frisch in honour of the twenty-fifth anniversary of his appointment as chief of the urological section of the Vienna Polyclinic. Among these papers are some of considerable interest, giving the experience of the Viennese urologists in regard to vaccines and other methods of treatment. Dr. v. Blum contributes an interesting paper on simple ulcer of the bladder, in which an ingenious theory of its pathogenesis is propounded. He maintains that acute hæmorrhagic cystitis and simple ulcer of the bladder have not received the attention they merit, and he proposes to substitute the name of purpura vesicæ for the former of these as more truly indicating its nature. He states that for some years he has been familiar with a form of acute cystitis with the following features occurring both in men and women. Sometimes the onset is quite sudden, not infrequently as a sequel of some acute catarrh of a mucous membrane, such as coryza, influenza, or tonsillitis. There is usually a short febrile period, with dysuria, strangury, and severe frequency. The end of the act of micturition is painful and is associated with the passage of a few drops of blood-stained urine. The main

[1] Centralblatt für Bakteriologie und Parasitenkunde, Jena, 1914, Orig., lxxii.

part of the urine may be clear and apparently free from blood, but as a rule it contains a relatively high amount of albumin. In the sediment there are a few red blood corpuscles and large quantities of bladder epithelium. On bacteriological examination the urine may be sterile or it may contain bacillus coli communis, or streptococci and staphylococci. If the bladder be examined cystoscopically at this stage multiple hæmorrhages are found distributed over the whole of its inner surface. If no treatment has been carried out, the appearances alter in a few days and the hæmorrhagic areas develop into definite ulcers, at first covered with membrane and subsequently granulating. The hæmorrhagic cystitis has developed into a membranous and ulcerative cystitis. At this stage the urine becomes turbid, brownish-red in colour, and contains in the sediment erythrocytes, pus cells, bladder epithelium, and crystals. Dr. v. Blum maintains that if a solitary ulcer originating in this manner were seen it would be regarded as a simple ulcer of the bladder. If such an ulcer becomes chronic its edges become hard, prominent, and callous, and they may become encrusted with a phosphatic deposit. Purpura vesicæ appears to be more common at certain seasons—namely, the spring and autumn. The relationship between simple ulcer and hæmorrhagic lesions of the bladder was affirmed as long ago as 1901 by Le Fur, who also suggested an analogy between these vesical ulcers and ordinary gastric ulcer. Dr. v. Blum carries this analogy a stage further, since he suggests that the vesical ulcers are produced as a result of the digestive action of the urine upon the damaged areas of mucous membrane. It has long been known that the urine may contain definite amounts of ferments, particularly of pepsin, and Grober demonstrated that the latter was combined with hydrochloric acid. Dr. v. Blum claims in support of his theory the beneficial effects of keeping the urine alkaline in the treatment of chronic simple ulcer of the bladder. He asserts that this form of treatment, combined with local measures and with attempts to disinfect the urine, leads to rapid healing even in chronic ulceration, and also acts as a preventive in cases seen in the hæmorrhagic stages. The beneficial effect of the alkalies he explains as being due to their power of inactivating pepsin, and thus preventing its digestive action on the damaged areas.

FRACTURE OF THE CARPAL CUNEIFORM BONE.

Dr. W. P. Coues has described in the *Boston Medical and Surgical Journal* of April 9th a very rare form of fracture—isolated fracture of the carpal cuneiform bone. This injury contrasts with fracture of the scaphoid bone and dislocation of the semilunar bone, which have been described ever since the advent of the X rays. A woman, aged 23 years, while doing gymnastics—standing on the hands—turned too far, lost her balance, fell to the ground, and rolled over on her left hand, which was flat and extended on the ground. She immediately felt pain in the wrist and was unable to use the hand. She said that she also felt crepitus at the time. On the next day the hand was very lame and there was ecchymosis over the dorsum. She consulted a practitioner, who thought there was no fracture. Disability, felt most on rotation of the wrist and extension of the hand, persisted. At first the pain was constant, then it was felt only when attempting to do gymnastic work. She was seen by Dr. Coues about three months after the accident. Of late she had felt numbness in the hand and arm. On examination there was no obvious swelling or ecchymosis in the region of the cuneiform bone, but flexion and extension of the wrist were slightly painful there and active abduction was more painful. Forced passive abduction caused great pain. Rotation of the forearm caused pain in the region of the cuneiform bone and a little lower. Slight synovitis of the middle extensor tendon was present. When the patient picked up a weight or turned a door-handle pain was felt in the cuneiform region. Pressure over the cuneiform bone was very painful, but no crepitus was elicited. Lateral pressure across the wrist so as to make the pisiform bone press upon the cuneiform caused much pain. A skiagram showed an incomplete fracture of the cuneiform bone running from the ulnar side about half way across the bone obliquely. The hand was placed on a palmar splint and a pad and strapping were applied over the cuneiform bone. After a few days there was considerable relief, and then the improvement continued, but was slow. A radiogram taken after immobilisation for a month showed no bony union, though the pain and disability were less. Another radiogram taken ten days later showed considerable union. The splint was removed and the hand bandaged. Complete recovery ensued. The long period of immobilisation before union took place was evidently due to the length of time during which the patient had attempted to work with the fracture ununited.

THE CAUSE OF LANDRY'S PARALYSIS.

THE causal agent of Landry's paralysis has been the subject of numerous observations, and though much debated is still a matter of dispute. A fatal case of the disease is recorded in the *Berliner klinische Wochenschrift* of April 27th by Dr. Erich Leschke, together with some interesting experiments carried out to discover the organism causing the condition. The patient was a girl, aged 16 years, who was taken ill on Dec. 17th, 1913, with an acute ascending paralysis. About 14 days previously she had complained of a trivial cold. The paralysis commenced with slight weakness in the hands, and on the second day there was complete flaccid paralysis of both lower extremities. The patient was then seen by Dr. Alfred Saenger, of Hamburg, and transferred to a hospital in that city under his care. On Dec. 20th the paralysis had involved the buttocks and both arms, while the breathing was becoming increasingly difficult. Death occurred on Dec. 21st with paralysis of the vagal and vaso-motor centres. A necropsy was made 16 hours after death, and macroscopically no changes were found in any of the organs. On microscopical examination of the nervous system recent and severe changes were found in the ganglion cells, and more or less complete plasmolysis and chromatolysis of the cells of the anterior horns of the spinal cord. No inflammatory changes of any kind were found. In fresh teased preparations of the spinal cord and also in stained sections Dr. Leschke was able to demonstrate very fine bodies 0·1 to 0·2μ in size. They were for the most part intracellular, but were sometimes to be seen outside the cells. They could be stained in teased preparations with methylene-azure, Giemsa, or carbol-fuchsin. To demonstrate them in the sections Dr. Leschke employed the following method. The section was stained with

concentrated carbol-fuchsin for about a minute and then carefully decolourised in a pale yellow solution of picric acid in absolute alcohol, until practically only the cell nuclei and red corpuscles remained coloured. On careful examination the "Landry bodies" could be seen as sharply defined red objects. Attempts to transmit the disease to rabbits and guinea-pigs were unsuccessful. Similar attempts with monkeys (Macacus rhesus) gave positive results. Portions of the fresh spinal cord removed at the necropsy were rubbed up with normal saline solution and injected intraspinally and intraperitoneally. The injection was made into one monkey on Dec. 22nd, 1913. It remained well until Dec. 31st, but died suddenly next night. In all Dr. Leschke succeeded five times in transmitting the disease to monkeys either from the spinal cord of the patient or from that of an infected monkey. The incubation period varied from 7 to 23 days. In two of the monkeys he was able to observe the course of the disease. They were attacked by an acute paralysis and lay quite flaccid, dying within a few hours of the onset. At the necropsy of these monkeys no gross changes could be found, but in all cases teased preparations showed the characteristic bodies in the ganglion cells or in their vicinity. Further observations showed that the Landry virus was a filter passer, that it was capable of cultivation, and that such cultures were capable of conveying the disease to monkeys. The cultures were obtained by Noguchi's method. Pieces of the spinal cord from the patient and from infected monkeys were inoculated into ascitic fluid and ascitic bouillon to which rabbit's or guinea-pig's kidney was added, under aerobic and anaerobic conditions. In the latter case some slight growth was apparent, but Dr. Leschke has not yet succeeded in obtaining a good progressive culture. His observations are of great interest, and should, if confirmed, go far to clear up the doubtful points in the etiolology and pathology of this obscure malady.

THE SERO-DIAGNOSIS OF CANCER.

THE work of Emil Abderhalden showed the presence of what he called "protective ferments" in the blood of animals, produced as a result of experimental stimuli and physiological and pathological conditions. A process taking place in the body which is, perhaps, harmful to the welfare of the individual, itself initiates or stimulates the production of antibodies whose effects are specifically directed to the removal of the deleterious agent. These antibodies occur in the blood serum; in relation to general infections they are familiar. But the far-seeing views of this distinguished scientist detected, as a result of his work on protein metabolism, an analogous mechanism in relation to metabolic changes the result of such effects as the growth of cancer and the onset of pregnancy. In other words, such processes initiate in the blood changes of essentially protective nature whose action is in many ways similar to that evoked by bacterial infection. But in one particular do the processes appear to differ. The protective substances are essentially digestive ferments and work on similar lines. The result of these observations has been to produce a test which has considerable value in the detection of cancer. In brief, it consists in testing the capacity of the blood serum of the suspected person to digest a given quantity of cancer protein. Strong powers of such digestion favour the diagnosis of malignancy: weak action negatives the probability. A series of cases has been tested in this manner by C. B. Ball, who records his results in a paper in the *Journal of the American Medical Association* (1914, Vol. LXII., p. 599). The cases are 51 in number. His results are certainly striking. The cases are classified into three groups. These, with the tests applied, showed the following figures. Positive tests, cancer; negative, no cancer:—

Cases.	Positive.	Negative.
Clinically malignant	7	0
Suspiciously ,, ...	20	8
Clinically non-malignant ...	4	12

The value of observations of this nature depends essentially upon the accuracy of the diagnosis and later confirmatory evidence. In this series care has been exercised. We are told that all the 20 positive suspicious cases were verified later as cancer either by Roentgen rays in 3, post-operative microscopy in 10, and definite subsequent history in 7. In the 8 negative suspicious cases there were two errors: one was a uterine tumour, but microscopic examination failed to show cancer tissue; the other proved to be a case of general miliary tuberculosis. In none of the other negative cases have suspicious signs developed. The four clinically non-malignant cases which gave positive reactions were all in pregnant women. In each of these cases the cancer tissue digested in the test was from a uterine growth. It has been found that pregnant serum may digest uterine tissue, and this helps to explain the divergence in the test from the rest, for in all the rest the cancer tissue was from other situations. Such a series of tests have considerable significance. There is the further possibility, suggested by allied observations to these serum reactions, that they may aid in roughly localising certain classes of tumour. It has been found that tumours of the genital tract may create a ferment capable of digesting ovarian, uterine, or placental tissues. Tumours from elsewhere in the body fail to do this. A positive reaction in such a case gives a probability of the site of the lesion. Extension of such responses may be anticipated, and it is thus suggested that there are grouped reactions, and that various sections of independent ferment-production seem to be governed by the difference of functional activity.

"THE FAMILY ENCYCLOPÆDIA OF MEDICINE."

WE are asked to give publicity to the following statement, which has been sent to us at the instance of the medical practitioners concerned:—"It will be recalled that the names of several professional men appeared in connexion with this work, and were advertised in such a way as to make it appear that these gentlemen were joint authors. The assistance was in fact gratuitous, and consisted in making corrections in the author's manuscript, and the use which was made of their names was without the knowledge or authority of the professional men concerned. The author has expressed his regret for this error, which caused the recognised rules of professional conduct to have been broken unwittingly, to the great regret of the gentlemen concerned. The author has undertaken that none of the names shall in future appear in connexion with this work, whether in book or part form. The publishers have likewise given their assent to this undertaking. It may be added, in explanation of the fact that the

names reappeared in Parts 2 and 3, that these parts were already in print and Part 2 already distributed, and that the publishers did not see their way to reprint them. After fullest consideration of the question it was decided to seek the removal of the names by negotiation rather than by resorting to legal process."

A MEMORIAL TO DR. LUCAS-CHAMPIONNIÈRE.

A COMMITTEE has been formed to erect a monument to the memory of Dr. Just Lucas-Championnière. Knowing the admiration and sympathy of the English medical profession for their late illustrious colleague, the committee are convinced that his numerous friends in England would like to participate in this testimonial. A preliminary circular has been issued which states that the spontaneous demonstration of regret and admiration aroused by the death of Just Lucas-Championnière has manifested itself in a wish to erect a monument worthy of his memory. The committee, which includes a large number of his colleagues, pupils, and friends, has decided to open a fund, in which "those who knew the departed master, and who therefore must have loved him," are invited to participate. The composition of the committee is as follows:—President, Profesor Guyon; Vice-President, Professor Laveran; Secretary-General, Dr. Michon; Secretaries, Dr. Dagron and Dr. Le Marc-Hadour; Secretary-Treasurer, M. Georges Steinheil, who will receive subscriptions at his publishing house, 2, rue Casimir-Delavigne, Paris. We cordially endorse the committee's invitation to their colleagues in this country.

THE LOCATION OF THE TYPHOID BACILLI IN THE BODY OF THE CARRIER.

THE discovery of the typhoid carrier has raised new problems, not only in preventive medicine but also in the pathology of infection and immunity. Two interesting contributions that have just appeared in continental journals seem to carry us a little further into the heart of these unexplored territories. The first of these is a short note by Dr. E. Ebeling, published in the *Berliner Klinische Wochenschrift* for April 20th. In this is described the case of a woman who was infected with typhoid fever in 1900. From 1904 to the present time there have been cases of typhoid fever in her village or in neighbouring villages which have been traceable to milk or other foodstuffs supplied by her. These cases were 14 in number, and led to the infection of 18 others. Examinations of the stools and urine of the supposed carrier were, however, negative, until the lady's indiscrete boasting revealed the fact that the material which she had been sending for examination did not emanate from her at all. Her blood was accordingly taken and the Widal test applied, agglutination being secured with serum diluted 200 times. The chief point of interest in the case lies, however, in the fact that the typhoid bacillus was found in cultures made from the patient's blood, though she was apparently in perfect health at the time of the examination. The stools and urine also yielded cultures of the organism at this time. Five weeks later, however, the blood had become sterile, and the Widal reaction was less definitely positive. Another addition to our knowledge of these matters was contributed by Dr. Bela Purjesz in the *Wiener Klinische Wochenschrift* (No. 1, 1914). He studied a group of 20 cases, 15 of whom gave a positive and 5 a negative Widal reaction. In all these patients, or in most of them, cultures were made from the circulating blood, the stools, and the duodenal contents as recovered with an Einhorn tube. These examinations were made from one to four weeks after the temperature had become normal. The duodenal contents represent the immediate secretions of the gall-bladder, and were examined to see whether the bacilli might not be discoverable by this method in some of those cases in which examination of the stools was negative. The bacilli were found in the duodenal contents in 8 of 15 positive cases, but in only one of these was examination of the stools negative. As Dr. Purjesz points out, however, it is hardly fair to base conclusions on single examinations of a few cases, and he thinks that a wider application of the method might yield results that would show its possible value as a means of detecting the elusive carrier. But it is to be doubted whether the suspected person will regard the employment of the duodenal tube as an additional inducement to take a scientific interest in his own case.

THE CHINA MEDICAL MISSIONARY ASSOCIATION.

THE biennial meeting of the China Medical Missionary Association, which is the only body of qualified practitioners engaged in general medical work among the Chinese, will be held in Shanghai on Monday, Feb. 1st, 1915, and four following days. The undoubted success of the last meeting of the association held in Peking, when the President of the Chinese Republic officially welcomed the association, suggests that the forthcoming one will be equally well attended and profitable; it is estimated that at least a fourth of the 400 to 500 members will attend, and papers of a high order of merit are expected. Papers to be read will be printed as abstracts, thus allowing time for more discussion; they should be in the hands of the programme committee by Dec. 1st, 1914. All business communications as to exhibits and all inquiries should be addressed in the first instance to Dr. Arthur F. Cole, Ningpo, China.

WE learn from our New York correspondent that Dr. Theodore Janeway, of New York, has been appointed full-time professor of medicine in the Johns Hopkins University, Baltimore. We believe that this is the first appointment of a full-time professorship of medicine which has been made in any English-speaking country, and in view of the report of the Royal Commission on University Education in London the matter is of more than ordinary interest to the medical profession of this country.

THE next session of the General Medical Council will begin on Tuesday, May 26th, when the President, Sir Donald MacAlister, K.C.B., will take the chair at 2 P.M.

Lord Lamington has consented to become President of the Research Defence Society, in succession to the late Sir David Gill.

ROYAL COMMISSION ON VENEREAL DISEASES.

AT the thirty-third meeting of the Royal Commission on Venereal Diseases evidence was given by Sir Herbert Smalley, M.D., one of H.M. Commissioners of Prisons.

Sir Herbert Smalley stated that it was his firm impression, and also that of many of the senior medical officers of prisons, that venereal diseases were not so prevalent in prisons as was the case 30 years, and even 20 years, ago, and that, apart from the actual number suffering, the cases were now less severe in character than formerly. He was, however, inclined to think that the later stages of syphilis affecting the circulatory and nervous systems and the so-called parasyphilitic affections were more prevalent. Returns which had been obtained for the five months ending last March showed that rather under 2 per cent. of prisoners received into local prisons presented manifest symptoms of either gonorrhœa or syphilis. An analysis of the figures showed that the highest incidence occurred amongst prisoners committed from large towns, manufacturing or mining districts, and it was also observed that cases of venereal disease were disproportionately numerous in prisons receiving prisoners from seaport towns. He described the methods and precautions adopted with regard to cases of venereal diseases in prisons, and stated that the conditions existing seemed to warrant the assertion that the danger of infection from venereal disease in prison was practically *nil;* he had never known a single instance of such a case occurring.

Sir Herbert Smalley stated that the results of his recent inquiry indicated that about half of those received into prisons suffering from venereal disease were still in an infectious condition when discharged. This problem might be attacked either by detention, notification, or by the provision of facilities for treatment subsequent to discharge. The first alternative, he considered, was of doubtful expediency, and he was of opinion that any form of notification other than that which was made applicable to the whole community would be inadvisable. The idea of a prisoner being specially penalised or of his sentence being enhanced on account of venereal disease would, he thought, be strenuously resisted. He was not in favour of venereal disease being made notifiable generally throughout the community. The provision of facilities for treatment seemed to Sir Herbert Smalley to offer a more hopeful solution of the difficulty. It was necessary, he thought, that means should be provided throughout the country for treatment of venereal disease free of cost, readily accessible, and with attendance permissible in the evening so as not to interfere with the daily work of the patient. As far as possible these centres should be at general hospitals and dispensaries rather than at special hospitals or centres solely for the treatment of venereal diseases. If such centres were organised it would enable a prison doctor to give a discharged prisoner a ticket, the presentation of which at a centre would secure the patient a continuance of treatment. The fact of the patient being recently discharged from prison should be a confidential matter and should be made known at the treatment centre to as few persons as possible. With regard to convict prisons Sir Herbert Smalley stated that the results of some investigations he had made showed that out of 1755 male convicts in certain prisons 299, or 17 per cent., showed signs of having had syphilis. Of 941 inmates examined at Borstal Institution 153, or 16 per cent., gave evidence of congenital syphilis.

LONDON SCHOOL OF CLINICAL MEDICINE: INSTRUCTION IN VENEREAL DISEASES.—A four weeks' course of instruction in the diagnosis and treatment of venereal diseases will be given at the London School of Clinical Medicine, Dreadnought Hospital, Greenwich, beginning on Monday, May 25th. The course is primarily intended to meet the requirements of medical officers in the Colonial Service, but is also open to other medical graduates. There are in the hospital 28 beds maintained for patients suffering from venereal disease.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN the 97 English and Welsh towns with populations exceeding 50,000 persons at the last Census and whose aggregate population at the middle of this year is estimated at 18,120,059 persons, 8938 births and 4896 deaths were registered during the week ended Saturday, May 9th. The annual rate of mortality in these towns, which had been 14·9, 15·1, and 14·2 per 1000 in the three preceding weeks, further declined to 14·1 per 1000 in the week under notice. During the first five weeks of the current quarter the mean annual death-rate in these towns averaged 14·7, against 13·8 per 1000 in London during the same period. Among the several towns the death-rate last week ranged from 4·9 in Aberdare, 6·2 in Walthamstow, 6·3 in Ilford, 6·4 in Hornsey, and 7·0 in Tottenham, to 19·8 in Ipswich, 20·2 in West Hartlepool, 20·6 in Middlesbrough and in South Shields, 21·8 in Southport, and 22·9 in Bury.

The 4896 deaths from all causes were 42 fewer than the number in the previous week, and included 436 which were referred to the principal epidemic diseases, against numbers rising from 433 to 453 in the four preceding weeks. Of these 436 deaths, 146 resulted from measles, 146 from whooping-cough, 59 from infantile diarrhœal diseases, 44 from diphtheria, 27 from scarlet fever, 13 from enteric fever, and 1 from small-pox. The mean annual death-rate from these diseases last week was equal to 1·3 per 1000, and coincided with that recorded in each of the three preceding weeks. The deaths attributed to measles, which had been 153, 140, and 155 in the three preceding weeks, fell to 146 last week, and caused the highest annual death-rates of 1·3 in Manchester and in Preston, 1·4 in Sheffield, 1·6 in Middlesbrough, 2·1 in Nottingham, and 4·4 in Stockton-on-Tees. The deaths referred to whooping-cough, which had been 117, 166, and 139 in the three preceding weeks, rose to 146 last week; the highest death-rates from this cause were 1·3 in Gateshead and in Swansea, 1·4 in Sunderland, 1·6 in Middlesbrough, 1·7 in Rochdale, and 2·0 in Carlisle. The fatal cases of diarrhœa and enteritis (among infants under 2 years), which had been 61, 66, and 59 in the three preceding weeks, were again 59 last week; of this number 12 were recorded in London, 4 in Liverpool, and 3 each in Birkenhead, Sheffield, and Middlesbrough. The deaths attributed to diphtheria, which had been 50, 40, and 50 in the three preceding weeks, declined to 44 last week, and included 13 in London, 4 in Birmingham, 3 in Bolton, and 2 each in Wolverhampton, Manchester, and Sheffield. The deaths referred to scarlet fever, which had been 40, 23, and 35 in the three preceding weeks, fell to 27 last week, of which 6 occurred in London, 5 in Birmingham, 3 in Manchester, and 2 each in Liverpool, Oldham, Sheffield, and Middlesbrough. The fatal cases of enteric fever, which had been 17, 10, and 15 in the three preceding weeks, fell to 13 last week, and included 3 in Manchester, 2 in London, and 2 in Wakefield. The death from small-pox belonged to Dewsbury.

The number of scarlet fever patients under treatment in the Metropolitan Asylums and the London Fever Hospitals, which had declined from 3182 to 2876 in the five preceding weeks, had increased to 2901 on Saturday last; 398 new cases were admitted during the week, against 289, 305, and 377 in the three preceding weeks. These hospitals also contained on Saturday last 1126 cases of diphtheria, 344 of whooping-cough, 105 of measles, and 48 of enteric fever, but not one of small-pox. The 1197 deaths from all causes in London were 81 in excess of the number in the previous week, and corresponded to an annual rate of 13·8 per 1000. The deaths referred to diseases of the respiratory system, which had been 263, 258, and 185 in the three preceding weeks, rose to 221 last week, but were 35 below the number registered in the corresponding week of last year.

Of the 4896 deaths from all causes in the 97 towns, 165 resulted from different forms of violence, and 375 were the subject of coroners' inquests, while 1388 occurred in public institutions. The causes of 48, or 1·0 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest. All the causes of death were duly certified in Manchester, Sheffield, Leeds, Bristol, Bradford, Hull, Newcastle-on-Tyne, and in 67 other smaller towns. Of the 48 uncertified causes of death, 10 were registered in Liverpool, 9 in Birmingham, 3 in Southend-on-Sea, and 2 each in Reading, Stoke-on-Trent, St. Helens, Bury, Gateshead, and Swansea.

HEALTH OF SCOTCH TOWNS.

In the 16 largest Scotch towns with an aggregate population estimated at 2,293,200 persons at the middle of this year, 1230 births and 713 deaths were registered during the week

ended Saturday, May 9th. The annual rate of mortality in these towns, which had been 16·0, 16·9, and 15·2 per 1000 in the three preceding weeks, rose to 16·2 per 1000 in the week under review. During the first five weeks of the current quarter the mean annual death-rate in these towns averaged 16·2, against a corresponding rate of 14·7 per 1000 in the 97 large English towns. Among the several towns the death-rate last week ranged from 7·9 in Ayr, 11·7 in Clydebank, and 12·3 in Perth, to 19·4 in Greenock, 20·0 in Paisley, and 21·8 in Coatbridge.

The 713 deaths from all causes were 44 in excess of the number in the previous week, and included 64 which were referred to the principal epidemic diseases, against 71 and 61 in the two preceding weeks. Of these 64 deaths, 31 resulted from measles, 17 from whooping-cough, 7 from diphtheria, 4 from infantile diarrhœal diseases, 4 from scarlet fever, and 1 enteric fever, but not one from small-pox. The mean annual death-rate from these diseases was equal to 1·5, against 1·3 per 1000 in the 97 large English towns. The deaths attributed to measles, which had been 20, 29, and 19 in the three preceding weeks, rose to 31 last week, of which 19 occurred in Glasgow, 4 in Edinburgh, 3 in Hamilton, and 2 in Dundee. The deaths referred to whooping-cough, which had been 11, 9, and 13 in the three preceding weeks, further rose to 17 last week, and included 10 in Glasgow and 3 in Coatbridge. The 7 fatal cases of diphtheria were equal to the average in the four preceding weeks, and comprised 3 in Glasgow, 2 in Aberdeen, and 2 in Kirkcaldy. The deaths of infants (under 2 years) attributed to diarrhœa and enteritis, which had been 13, 18, and 17 in the three preceding weeks, declined to 4 last week, of which 3 were recorded in Glasgow and 1 in Dundee. The 4 deaths referred to scarlet fever were slightly below the average for the four preceding weeks, and included 2 in Aberdeen. The fatal case of enteric fever was registered in Glasgow.

The deaths referred to diseases of the respiratory system, which had been 120, 130, and 90 in the three preceding weeks, rose to 116 in the week under notice; and 16 deaths resulted from various forms of violence, against 31 and 28 in the two preceding weeks.

HEALTH OF IRISH TOWNS.

In the 27 town districts of Ireland, with an aggregate population estimated at 1,205,280 persons at the middle of this year, 661 births and 431 deaths were registered during the week ended Saturday, May 9th. The annual rate of mortality in these towns, which had been 22·5, 25·3, and 20·6 per 1000 in the three preceding weeks, further declined to 18·6 per 1000 in the week under review. During the first five weeks of the current quarter the mean annual death-rate in these towns averaged 21·5 per 1000; in the 97 large English towns the corresponding rate did not exceed 14·7, while in the 16 Scotch towns it was equal to 16·2 per 1000. The annual death-rate last week was equal to 21·7 in Dublin (against 13·8 in London and 15·7 in Glasgow), 15·2 in Belfast, 19·7 in Cork, 12·7 in Londonderry, 19·0 in Limerick, and 26·6 in Waterford, while in the 21 smaller towns the mean rate rose to 19·0 per 1000.

The 431 deaths from all causes were 46 fewer than the number in the previous week, and included 47 which were referred to the principal epidemic diseases, against numbers declining from 75 to 63 in the three preceding weeks. Of these 47 deaths, 30 resulted from measles, 9 from whooping-cough, 3 from diphtheria, 3 from infantile diarrhœal diseases, and 2 from scarlet fever, but not one from enteric fever or small-pox. The mean annual death-rate from these diseases last week was equal to 2·0, against corresponding rates of 1·3 and 1·5 in the English and Scotch towns respectively. The deaths attributed to measles, which had been 42, 37, and 45 in the three preceding weeks, fell to 30 last week, and comprised 29 in Dublin and 1 in Belfast. The deaths referred to whooping-cough, which had been 14, 12, and 9 in the three preceding weeks, were again 9 last week, and included 3 in Cork, 3 in Belfast, and 2 in Dublin. The fatal cases of diarrhœa and enteritis (among infants under 2 years), which had been 10, 7, and 8 in the three preceding weeks, fell to 3 last week, of which 2 were recorded in Waterford and 1 in Dublin. The 3 deaths attributed to diphtheria, comprising 2 in Dublin and 1 in Belfast, were slightly in excess of the average in the four preceding weeks. The 2 fatal cases of scarlet fever occurred in Dublin.

The deaths referred to diseases of the respiratory system, which had been 115, 112, and 87 in the three preceding weeks, further declined to 74 in the week under notice. Of the 431 deaths from all causes, 121, or 28 per cent., occurred in public institutions and 4 resulted from various forms of violence. The causes of 17, or 3·9 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest; in the 97 large English towns the proportion of uncertified causes did not exceed 1·0 per cent.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments have been notified:—Staff-Surgeons: L. L. Greig to Royal Marine Depôt, Deal; W. Bastian to the *Columbine*, additional, for service at Cromarty; W. R. Harrison to the *Amethyst*; A. H. S. Richardson to the *Topaze*, on completing; H. A. Browning to the *Research*, and G. C. Cross to the *Endeavour*. Surgeons: A. R. Sharrod to the *Hibernia*; H. E. Y. White to the *Commonwealth*; G. B. Scott to the *Cumberland*, on recommissioning; J. S. Elliott, A. J. Tonkinson, and J. R. Haldane to the *Victory*; G. S. Harvey and H. C. A. T. Cannon to the *Vivid*; W. H. Murray, G. H. Hayes, and H. J. Hopps to the *Pembroke*, additional, for disposal; T. J. Kilbride to the *Leander*; P. B. Wallis to the *Vernon*, additional, for the *Niger*; J. P. Blockley to the *Triton*; and R. A. Rankine to the *Ganges*, additional, for Shotley Sick Quarters.

In accordance with the provisions of Order in Council of April 1st, 1881, Fleet-Surgeon Frank Bradshaw has been placed on the Retired List at his own request (dated April 9th, 1914).

ARMY MEDICAL SERVICE.

Major Harold P. W. Barrow, Royal Army Medical Corps, to be a Deputy Assistant Director-General at the War Office, vice Lieutenant-Colonel B. H. Scott (dated May 1st, 1914).

ROYAL ARMY MEDICAL CORPS.

Colonel F. Butt has been selected for appointment as Deputy Assistant Director of Medical Services to the Second London Division. Colonel R. Kirkpatrick, C.M.G., has been appointed Assistant Director of Medical Services to the Presidency Brigade at Calcutta. Colonel H. J. Barratt has taken up duty at Bareilly Cantonment.

Lieutenant-Colonel J. H. Daly has taken up duty in the Belfast District as Senior Medical Officer of the North Irish Coast Defences. Lieutenant-Colonel R. H. Hall has arrived home for duty from Bermuda. Lieutenant-Colonel J. C. Connor has been appointed to the Irish Command. Lieutenant-Colonel W. Turner has been appointed Deputy Assistant Director of Medical Services to the Welsh Division. Lieutenant-Colonel S. Guise-Moores has been transferred to the Colchester District from Aldershot. Lieutenant-Colonel H. C. Thurston, C.M.G., has been appointed to the Aldershot Command. Lieutenant-Colonel C. W. H. Whitestone has been appointed to hold charge of the Military Hospital at Hilsea. Lieutenant-Colonel H. I. Pocock has been transferred from Murree to Campbellpore Cantonment. Lieutenant-Colonel H. E. Winter has embarked for India. Lieutenant-Colonel C. Dalton has taken up duty at Aldershot.

Major A. E. Hamerton, D.S.O., has been appointed to the Eastern Command. Major F. E. Gunter has been appointed Assistant Surgeon to the Royal Military College at Camberley. Major J. G. Gill has arrived home for duty from India. Major V. J. Crawford has been appointed to the Southern Command. Major J. M. Cuthbert has been appointed to hold medical charge of the Headquarters Staff and Departments in the Scottish Command. Major E. W. Bliss has been transferred from the Eastern Command to the Scottish Command. Major J. C. B. Statham has been appointed to the London District. Major E. F. L'Estrange has been appointed to the Belfast District. Major J. B. Clarke has been placed under orders for service in North China. Major E. T. Inkson, V.C., has been appointed to the Military Hospital at Exeter. Major D. Lawson has been appointed Senior Medical Officer at Mauritius. Major S. O. Hall has been appointed Specialist in Midwifery and Diseases of Women and Children to the Burma Division. Major G. M. Goldsmith has been appointed to the Dublin District. Major G. J. Houghton has arrived home for duty from the Sierra Leone Protectorate. Major A. G. Thompson has been appointed to the Southern Command. Major M. H. G. Fell has been appointed Deputy Assistant Director of Medical Services to the Aldershot Command.

Captain A. S. Arthur has been appointed to the Military Hospital at Pembroke Dock. Captain H. J. Crossley has taken up duty at the Military Hospital, Meerut Cantonment, as Specialist in Advanced Operative Surgery. Captain E. D. Caddell has been transferred from the Irish to the Eastern Command. Captain S. Field has been appointed to the Irish Command. Captain H. O. M. Beadnell has taken up duty at the Military Hospital, Tidworth. Captain J. B. Hanafin has been appointed Specialist in Electrical Science and Radiography to the Third (Lahore) Division. Captain C. H. Denyer has been appointed to the Southern Command. Captain D. de C. O'Grady has been appointed to the Eastern Command. Captain E. C. Phelan has been appointed to the Belfast District. Captain T. S. Blackwell has joined the Colchester District. Captain F. M. Hewson has been appointed to hold charge of the Followers and Cantonment Hospitals at Karachi,

Captain P. A. Lloyd Jones has been appointed Specialist in Ophthalmology to the Military Hospital at Aldershot. Captain J. W. Houston has been appointed Deputy Assistant Director of Medical Services for Sanitation to the First (Peshawar) Division. Captain E. C. Lambkin has taken up duty at Hong-Kong. Captain M. Leckie has joined the Southern Command. Captain R. R. Lewis has been appointed to hold charge of the Military Hospital at Port Lokkoh, West Africa. Captain R. E. Humfrey has been transferred from Ireland to India. Captain W. Mitchell has arrived home from India. Captain E. L. Fyffe has been appointed to hold charge of the Cantonment General Hospital and Followers Hospital at Poona. Captain F. W. W. Dawson has been appointed Specialist in the Prevention of Disease to the Jullundur Brigade and placed in charge of the Bacteriological Research Laboratory at Headquarters. Captain J. G. Bell has taken up duty at the Military Hospital, Singapore. Captain H. H. A. Emerson has been appointed Adjutant to the Royal Army Medical Corps School of Instruction at Leicester. Captain J. R. Foster has been appointed to hold medical charge at Kilbride Camp. Captain C. H. Harold has been appointed to hold charge of the Northern Army Bacteriological Laboratory at Ambala Cantonment. Captain A. C. Elliott has taken up duty in the Eastern Command. Captain B. A. Odlum has been appointed to the Military Hospital at Bloemfontein. Captain W. K. Beaman has joined the Northern Command. Captain D. B. McGrigor has been transferred from the Military Hospital at Ranikhet to Agra Cantonment. Captain F. Casement has arrived home from India. Captain T. H. Scott has been appointed to Bradford.

Lieutenant W. L. Webster has been transferred from the Military Hospital at Limerick to Egypt. Lieutenant J. Hare has taken up duty at Enniskillen, on transfer from the Military Hospital at Belfast. Lieutenant E. A. Strachan has been appointed to the Military Hospital at Lucknow Cantonment. Lieutenant H. F. Panton has embarked for India. Lieutenant P. M. J. Power has been transferred from the Military Hospital at Cosham to Winchester. Lieutenant A. G. Brown has been appointed to the Military Hospital at the Curragh Camp.

INDIAN MEDICAL SERVICE.

Surgeon-General W. B. Bannerman, C.S.I., chief medical officer to the Government of Madras Presidency, has been appointed Honorary Physician to His Majesty the King.

Colonel H. E. Banatvala has been appointed to officiate as Inspector-General of Civil Hospitals in the Central Provinces.

Lieutenant-Colonel J. Jones has joined at Bombay. Lieutenant-Colonel S. Browning-Smith, officiating Sanitary Commissioner to the Government of the Punjab, has been granted 18 months' combined leave of absence home from India. Lieutenant-Colonel C. H. James, C.I.E., has been appointed to officiate as Civil Surgeon at Simla East during the absence on leave of Lieutenant-Colonel H. A. Smith. Lieutenant-Colonel A. C. Younan has taken over medical charge of the 25th Punjabis. Lieutenant-Colonel E. Hasell-Wright has been appointed District Medical and Sanitary Officer and Superintendent of the Medical School at Tanjore.

Major J. W. F. Rait has taken over charge of the jail at Hooghly from Captain A. H. Proctor. Major E. E. Waters has been appointed to officiate as Superintendent of the jail at Howrah, vice Lieutenant-Colonel A. H. Nott. Major T. A. Grainger has been selected for advancement to the rank of Brevet Lieutenant-Colonel. Major H. M. MacKenzie has been appointed to officiate as Professor of Pathology at the Government Medical College, Lahore, vice Major W. H. C. Forster. Major H. Innes has arrived home on leave of absence. Major E. C. MacLeod has been appointed to officiate as Inspector-General of Civil Hospitals and Prisons to the Government of Assam. Major W. Selby, D.S.O., has been appointed Professor of Surgery to the King George Medical College at Lucknow. Major W. D. Hayward has been appointed to officiate as Medical Storekeeper at Madras. Major R. H. Price has taken up duty at Kohat.

Captain C. L. Dunn, Deputy Sanitary Commissioner in the United Provinces of Agra and Oudh, has been granted eight months' leave of absence home from India on medical certificate. Captain H. P. Cook has been appointed for special duty in connexion with plague prevention at Fyzabad. Captain C. H. Cross has been appointed for a course of training in the Chemical Examiner's Laboratory in Madras. Captain G. McGregor-Millar has been appointed to hold substantive medical charge of the 54th Sikhs. Captain F. Salisbury has joined at Dacca. Captain J. F. Boyd has been appointed Plague Medical Officer at Ballia on transfer from Bareilly. Captain J. F. James has been appointed to officiate as Civil Surgeon at Sibsagar, Assam. Captain H. H. Thorburn has been appointed to officiate as Civil Surgeon at Meshed and Assistant to the Consul-General at Korasan. Captain A. M. Dukes has been appointed Deputy Sanitary Commissioner to the Burdwan and Presidency Circles in Bengal. Captain T. C. Boyd has taken up duty as Agency Surgeon at Deoli.

SPECIAL RESERVE OF OFFICERS.

Royal Army Medical Corps.

Lieutenant Henry Robins Borcherds resigns his commission (dated May 13th, 1914). Lieutenant George E. Pepper is confirmed in his rank.

TERRITORIAL FORCE.

Royal Army Medical Corps.

1st Northumbrian Field Ambulance, Royal Army Medical Corps: Captain Arthur G. Dunn resigns his commission (dated May 13th, 1914).

2nd Scottish General Hospital, Royal Army Medical Corps: Major Francis M. Caird to be Lieutenant-Colonel (dated April 9th, 1914). Major John D. Comrie, from the permanent *personnel*, to be Major, whose services will be available on mobilisation (dated April 9th, 1914). Captain David James Graham, from the 3rd Lowland Field Ambulance, Royal Army Medical Corps, to be Captain (Registrar) (dated April 9th, 1914).

For Attachment to Units other than Medical Units.—Robert Ellis (late Cadet, Cambridge University Volunteer Rifle Corps) to be Lieutenant (dated May 9th, 1914).

Attached to Units other than Medical Units.—Matthew B. Ray (late Captain, 5th Battalion, The Prince of Wales's Own (West Yorkshire Regiment)) to be Captain (to be supernumerary) (dated May 9th, 1914). Lieutenant Stanley F. Linton to be Captain (dated August 9th, 1913).

Officers Training Corps.—University of London Contingent, Senior Division, Officers Training Corps: Major Wilmot P. Herringham, 1st London (City of London) General Hospital, Royal Army Medical Corps, serving with the University of London Contingent, Senior Division, Officers Training Corps, is appointed to command the medical unit of that contingent, and is granted the local rank of Lieutenant-Colonel (with the pay and allowances of that rank) whilst so employed (dated April 3rd, 1914).

INDIAN MEDICAL SERVICE DINNER.

The annual dinner of the Indian Medical Service, as already announced in THE LANCET, will be held at the Hotel Cecil on Monday, June 8th. Surgeon-General J. H. Benson will preside. Officers desirous of being present who have not already intimated their intention should do so without delay to the joint honorary secretary, Lieutenant-Colonel J. J. Pratt, 63, Addison-road, Kensington, W.

ROYAL ARMY MEDICAL COLLEGE JUNIOR EXAMINATION.

At the recent examination for the junior course of instruction at the Royal Army Medical College Lieutenant A. Watson was awarded the Herbert, De Chaumont, Tulloch Memorial, and second Montefiore prizes, and Lieutenant N. V. Lothian the Parkes Memorial and Marshall Webb prizes.

DONATIONS AND BEQUESTS.—The late Mr. Samuel Massey, of Manchester, whose property amounts to about £6948, has left the residue, after payment of a few small gifts, to the Manchester Royal Infirmary, the Manchester Eye Hospital, the Manchester Hospital for Diseases of the Throat and Chest, and a certain sum is left for other charitable purposes.—By will the late Dr. Charles Bruce, LL.D., of Edinburgh, left £1000 each to the Royal Infirmary, Edinburgh, and the Royal Edinburgh Hospital for Incurables, £750 each to the Edinburgh Institution for the Deaf and Dumb, and the Royal Society for Home Relief for Incurables, Edinburgh. Subject to certain life interests he left the following further bequests: £2500 to the Edinburgh Royal Infirmary and £2500 to the Royal Edinburgh Hospital for Incurables.—By will the late Mr. Thomas Edwin Crocker left £500 each to the Tavistock (Devon) Cottage Hospital, King's College Hospital, the Wimbledon Cottage Hospital, and the Nelson Hospital, Merton.—The late Miss Eleanor Theakston Sprunt, of Emsworth, Hants, has left estate of which £24,853 is net personalty. After bequests amounting to about £1500, the testatrix left the residue of her estate in equal shares to the Royal Albert Asylum, Bagshot; Dr. Barnardo's Homes; the Orphan Working School, Haverstock Hill, N.W.; the British Home for Incurables, Clapham-rise, S.W.; the West Sussex, East Hants, and Chichester Infirmary; the Royal National Lifeboat Institution; the Emsworth Cottage Hospital; the Cancer Hospital, Brompton; and the National Hospital for the Paralysed and Epileptic.—The governors of the Durham County Hospital have received a gift of £1000 from the Ven. Archdeacon Watkins, of Durham, towards the operating theatre.—The late Mr. Roch Raymond Mege left by will £400 to the French Hospital, Shaftesbury-avenue.

MEDICAL PRACTICE UNDER THE INSURANCE ACT.

(BY OUR SPECIAL COMMISSIONER.)

(*Continued from p. 1311.*)

XLV.—SOUTHEND-ON-SEA.

IN the course of my peregrinations over England I had by the end of March worked across the metropolis to the border of Essex, and my start for a brief tour in the Eastern counties was made at Southend-on-Sea.

In honour of its rapid growth in population and popularity, Southend-on-Sea has just been promoted to the status of a county borough. Though so near to London and so accessible, it is only during recent times that its advantages as a place of residence or a resort have been appreciated in any marked way. In 1866, or but half a century ago, there were 3400 residents at Southend. Even so recently as 1892 the population was only estimated at 12,500. To-day it has reached the imposing total of 82,000.

The railway companies have contributed to bring about this increase, and have so improved the facilities of communication that many families whose earning partner has business in London nevertheless reside at Southend. This means that there are many and good opportunities for private practice. It is not an industrial town, but a pleasure, health, and holiday resort. The particular local and economic conditions so created do not seem to the medical profession suitable to a large increase of contract practice, and doctors were not a little alarmed to find that a National Insurance Act, which on the whole was planned to suit working-class and industrial centres, would be applied to their very different and special locality. Therefore the Insurance Bill inspired sinister forebodings and general mistrust. During the year 1912 the local practitioners gathered together very frequently, and as the critical Christmas in the history of the legislation approached they met every night.

It was my privilege to be received by quite a large number of local practitioners when I went down to Southend recently, and I found many of them still congratulating themselves on having been very unanimous in the view which they took during the most trying periods. That they gave up the struggle with the unanimity which they had shown in combating the scheme cannot be denied; and now it is probable that not only at Southend but throughout the whole county of Essex 90 per cent. of the available practitioners are on the panel. Yet it would be a great mistake to look upon this as a manifestation in favour of the Act. It simply means that the Essex practitioners thought that if they did not yield worse would happen to them.

Early Dislike of the Act.

It would have been easier, as a matter of fact, to resist the Act in Southend than in many other places because the town is especially free from any competing connexion in the surrounding country. Southend is embraced on three sides by broad waters. The insured population could not have crossed this water conveniently to get medical advice in a neighbouring medical area. Previous to April 1st, 1914, when Southend became a county borough, and thus secured an Insurance Committee of its own, the locality was under the Insurance Committee of the county of Essex. The only county borough that then existed was West Ham, and East Ham was applying to be recognised as a county borough. The population of the county of Essex is put down at 1,300,000, and 290,000 of them are insured. There are many districts where the population is so sparse that it is not practicable to give prescriptions to patients, and the actual number of insured persons for whom the panel doctors have to dispense medicine amounts to 54,000. In Southend itself there should be 19,000 persons insured, but on recently adding up the lists of the panel doctors it was found that the payments effected only covered an insured population of from 14,000 to 15,000. As there are 34 practitioners on the Southend panel this means an average of less than 500 persons per list. It will be seen, therefore, that the Southend practitioners are not so dependent for their living on the classes that come under the Insurance Act as is the case in large industrial centres. But like many averages the figures do not represent what actually occurs. In practice some lists are so small that to lose the patients they represent would not much matter, while others, on the contrary, represent the better part of the practitioner's income. The stout resistance set up against the Act remains justified in the eyes of many doctors by subsequent events.

The resistance, here as elsewhere, broke down through the want of organisation. It was impossible to find out what was happening in other parts of the country. What publicity did take place favoured the partisans of the Act, for it consisted, in the main, of an ever-growing list of places that had given in. Such news, on its recurrent appearance, was very discouraging, and there were no means available of testing the feeling of the profession in other places. Then the Southend practitioners sadly felt the need of a proper fund on which they could rely to back up the victims. "Am I to break my word or am I to be ruined?" was a question raised by some of the practitioners who were most involved. It was very difficult to counsel men to hold out when it was obvious they would lose half their practice and were not likely to receive any compensation. Nevertheless the practitioners had at Southend the advantage of having very few medical aid clubs or societies. So they held out after all the other parts of Essex had accepted the Act, but three or four days before the pledge was withdrawn they did surrender, and they all yielded together. Thus to-day no one can say: "I held out and you did not."

The Expenses of the Committees.

What finally brought the resistance to an end, so I was told, was the news given that Mr. Worthington Evans, M.P., had telephoned that it was no use holding out any longer because the Government had parcelled out Essex among a staff of medical men who were ready to establish a sort of State Medical Service for the county. The chairman of the Essex County Insurance Committee having confirmed the news, the Southend practitioners were called together and given this information. Thereupon it was agreed to accept the Act, and this was done unanimously. Therefore the profession is not divided into two camps; but, as I have already said, it would be a great error to conclude that because all have accepted, therefore all approve of the Act. On the contrary, when I found myself in the midst of some 10 or 12 Southend practitioners it soon became apparent

that they had many grievances to ventilate. Naturally, I asked if there was a Medical Committee that might deal with at least some of these grievances, but I soon became aware that the Medical Committee was in itself a grievance. The County Medical Committee had to meet in London and to pay for the hire of its own room and the travelling expenses of its own members. The secretary had an enormous amount of work to do, but received nothing for his trouble. A voluntary levy was attempted, but met with a very poor response.

The present proposal is that the expenses of this County Medical Committee, as also those of the Pharmaceutical Committee, are to be paid by a deduction of one halfpenny out of the floating sixpence for each committee, counting, of course, the halfpenny for each person on the lists of the panel doctors, thereby decreasing the claim of the practitioner from this source. To spend thus their own money in carrying out the Act by establishing a Local Medical Committee they had to obtain special permission from the Commissioners, and some soreness is accordingly felt.

No New Story.

As to the results of the Act, some of the Southend practitioners have recognised that under it they are earning more than before; but if the amount of work they have to do is taken into consideration, then they said that they were earning less in proportion. In the old club practice the patients felt reluctant to take the money of others unless there was really something serious the matter. Now no one has such scruples, and the result is that the panel doctors of Southend are so worried by the importunities of those who have nothing much the matter with them, that they can with difficulty find time to examine properly those to whom, if the exact conditions were realised, they should devote much more time. Not only is this injurious to the patients, but it destroys the value of the cards, for the information which they should supply for statistical purposes is not reliable. Yet no one at Southend, I was assured, has more than 900 persons on his list. What, then, would have happened if the Government had put into this town, as it was proposed, only four practitioners to do the work that is divided to-day among 34 practitioners?

One practitioner, in explaining how the Act had somewhat reduced his income, said that most of his patients belonged to a lowly paid class of clerks. They used to pay small fees and were now nearly all insured persons. And they are not the profitable *clientèle* that they should be in a place as healthy as Southend with a death-rate of about 9 per 1000. Capitation fees should be very profitable, for there is so little sickness. But this extension of contract practice has affected many doctors. The real grievance here, as in so many other places, is the inspring of the employed sons and daughters of wealthy persons. One case related to the son of a large contractor. On his father's wage sheet he appears as earning 35*s*. a week, but he also receives a bonus of £20 a month. The family doctor refused to treat on insurance terms the son of this contractor, and as a consequence he lost the whole family. If he had accepted he could not have treated the son differently from the rest of the family, yet for the small sum insured persons pay he ought not to expect so much personal attention.

At Southend, I am sorry to report, it was evident to me that contract work in many instances meant inferior work. The panel doctor must not accept anything above the grant as by law established for fear that to do so might bring about a system of preferential treatment, and yet when he knows the substantial position of some of his patients or their children he naturally feels sore. Formerly it was contemplated charging some insured patients ordinary fees, but deducting from their bills the sums accumulated by the annual payments of 7*s*. Any arrangement of that sort has, however, been declared irregular. "The Act," one Southend practitioner exclaimed, and others approved his observation, "is glorified club practice. No one would come if he had to pay a panel doctor for such treatment." If partly this was a self-condemnatory remark, partly it was a proof that a very big proportion of the population are resorting to panel doctors—a far higher proportion than had been anticipated. Consequently the old club bottle of medicine method was revived. Any amount of medicine was needlessly given, because the patient would complain if he did not get at least one bottle of medicine.

Insured Women at Southend.

Servants are perhaps difficult to keep at Southend, and mistresses fortunate enough to have them are unduly solicitous about their welfare. Anyhow, the mistresses of domestic servants are, I was told by several doctors, constantly telephoning when there was the least thing the matter with their servants. They used to be more careful when they had to pay for medical advice, as to their credit they very usually did. But the practitioner must not resent being thus troubled or else he may lose the servant's mistress, who is a private patient and pays good fees. I should not have thought servants are difficult to get; indeed, there are so many women domestics and charwomen at Southend that several panel doctors were of the opinion that some 40 per cent. of the insured with whom they had to deal were women. The female patients under the Act always take up much more time than the men, and this has proved the case at Southend, where, also in accordance with general experience, their principal complaints are anæmia, gastric trouble, constipation, and rheumatism. These patients go far to prove that it was a great mistake on the part of the promoters of legislation to have calculated the probable amount of sickness on the experience of the Friendly Societies, particularly when these societies had but few women members. As a matter of fact, panel doctors are now treating "arrears of sickness" among their female patients—namely, women who were ill before the Act was passed, but who had never before been either insured or treated. Such neglected people naturally give more trouble than the former members of Friendly Societies, and they are as frequent at Southend as the smiling lass who turns up after a mile walk and begins negotiations by the statement that she is in "an agony of pain." To add to the extra trouble it has been discovered that insured servants are sometimes sent out to describe their mistress's symptoms and get medicine or ointment, not for themselves, but for the family they serve. Others give their medicine to non-insured dependents.

The Temporary Population.

Then there is at Southend the special trouble that applies to holiday resorts—namely, the treatment of strangers who are insured visitors. Last

season the green vouchers were in force, but the majority of visitors were so worried by formalities that they gave the matter up as hopeless and found it less trouble to pay the usual fees. During the forthcoming season it is feared the surgeries will be filled with insured strangers just when a little profitable private practice might be obtained. The attending to these strangers must necessitate a separate system of bookkeeping and cause more clerical work than the probable financial result warrants. On the other hand, it is thought that the conversion of Southend into a borough with its own Insurance Committee will improve the situation. A certain hostility was felt by the Essex Insurance Committee against the doctors because they had given trouble and had so stoutly resisted the Act. Now a smaller and purely local Southend committee, drawn from people who are personally acquainted with the doctors, is more likely to be free from any such prejudice. The Commissioners, however, did not view the matter in the same light. They feared there might not be money enough forthcoming to pay for the working expenses of the Local Insurance Committee. It appears they have calculated that unless there are about 50,000 insured persons the receipts will not cover the expenses of an Insurance Committee; and it has been seen that unless strangers are included there is not half that number of insured persons at Southend. However, the die has been cast, and the best must now be made of the situation.

(To be continued.)

MOTORING NOTES.

(FROM A SPECIAL CORRESPONDENT.)

Insignificant Trifles.

DURING my 14 odd years of motoring I have come in contact occasionally, either personally or in correspondence, with a few unlucky individuals. As far as their automobile experiences went, they seemed to have had the sorrows of Werther, while other owners of similar cars have expressed themselves completely satisfied. Analysis of the cause of many of these troubles leads to the conclusion that the motorist was more often to blame than the car. Looking at the car of a satisfied owner revealed frequently, by inference, the reason of the worries of the dissatisfied motorist. In one the engine was kept clean, the bearings were always adjusted, nuts subject to vibration were kept tightened, lubricators were charged with grease or oil, water joints were not allowed to leak, springs were kept greased, shackle bolts were lubricated and tightened, the sparking plug points were clean and correctly adjusted, and the ends of the valve lifters were separated only by the thickness of a thin visiting card from the stems they had to lift, while the petrol needle valve was true, and there was an absence of the clatter noticeable in the slovenly kept engine. Most of these details are in themselves insignificant, and the attention they need would probably not occupy more than five or ten minutes a day; but the few minutes saved by ignoring their claim to this slight attention are usually followed by a day of reckoning, in which hours may be spent on the roadside and pounds in the repair shop. I trust, however, that these suggestions will not be an excuse for the other type of owner: I mean the over-careful, fussy one, who also exists, and who likes to look at the piston rings once a week, to grind in the valves almost as frequently, and even to attend to the "big ends" at equally short intervals. There is, of course, a happy medium.

The Cost of Repairs.

Disputes regarding accounts for car repairs are best obviated by first obtaining an estimate. Generally speaking, the repairer is not in a position to give an estimate without first dismantling the engine; but most motor engineers will give a price for dismantling and re-erecting, and then, when the engine is taken down, the actual requirements can be ascertained and demonstrated to the owner, and the price and need for each specified. It may be enough if valves are ground in, new valve springs fitted, and big ends taken up, or bearings may require renewing and timing or other gears replacing. These are points for consideration, and can be discussed when the parts are asunder. In some cases relining the bearings with white metal will suffice, whilst in other cases it may be advisable to replace them with new ones. This depends on the amount of wear and the quality of the material originally used. On well-constructed and carefully fitted cars the life of a bearing is longer than on the cheaper and less carefully built ones. In coming to a decision it is well to remember that though loose parts may run, still they cause loss of power, and when once loose they wear rapidly. A little extra trouble spent in the overhaul may postpone the need of a second one for some considerable time, and moreover may obviate an undesirable road stop.

The Object of Lubrication.

In order to obtain efficiency from an engine and from all moving parts any undue friction must be overcome. Lubrication does this by interposing a film of oil, which keeps the surfaces of all moving parts from coming into contact with each other. As these parts move they throw and squeeze out the lubricant. However well the moving parts are made, when examined under the microscope they are seen to be rough, and when two rough parts work on one another they grind each other and thus cause wear. The film of oil interposed prevents this wear. As already remarked, the tendency is to squeeze this film out, therefore to obviate wear the lubricant must be supplied frequently and in small doses. Car owners who bear this in mind will obtain the maximum life from their engine and working parts, with a minimum expense in the matter of upkeep. A point also to bear in mind is the quality of the lubricant. Though cheap oils may not always be considered the most satisfactory, if made by a good firm they frequently answer as well as the more expensive ones. It is better to buy the oil in bulk, by which method the price is greatly reduced. If when ordering the make of engine is mentioned, the manufacturer will see that a suitable oil is supplied.

A Novelty in Change Speed Apparatus.

When an internal combustion engine is used for the propulsion of a vehicle change speed gears are a necessary evil, and a part of the evil has been the quadrant or gate on the driver's right, which usually interferes with easy access to the seats of the car from that side. A recent American innovation is the electric gear change apparatus, in which the external actuating levers are replaced by an electric device worked from the steering column. In the place of the gate or quadrant there are merely some four or five push buttons. A solenoid—that is, a hollow magnet surrounded with insulated wire—is fitted, and when the button is pushed and the electric circuit is completed by depressing the clutch pedal an electric current circulates through the solenoid, which then becomes a powerful magnet drawing in a rod, and thereby bringing the gear into mesh. All the driver has to do when desiring to change speed is to press the appropriate button. Nothing then happens, however, until the circuit is completed by taking the clutch out. Then the magnet so formed draws the gear into mesh. I understand that the consumption of electric current is small and that this method has been found to answer exceedingly well in America, where it is now largely used. Of course, there is a danger of short circuits, but if this method is well designed and constructed they are not likely to occur.

The Causes of Over-heating.

Over-heating may be due to one of the following causes:—(1) Insufficient lift to the exhaust valve; (2) backward pressure from a choked or partly choked silencer; (3) too rich a mixture; (4) too late an ignition; and (5) some block in the water circulation. A diagnosis is easily arrived at by a process of exclusion. Examine the valve-lifters at work, and note if there is too much clearance between the lifter and the valve stem. The thickness of a thin visiting card should be an ample gap. If there is too much clearance the valves will lift late and the exhaust gases will not be thoroughly cleared out by the time the piston descends for the induction stroke. With the engine accelerated note if

there is an emission of hot gases from the silencer. If the engine is over lubricated this will be visible; if not, the silencer should be taken down and cleaned. If there is an adjustment on the carburetter so that more air can be admitted, the experiment may be tried of running the engine with an increase in the quantity of air to ascertain if this effects an improvement. The platinum points of the magneto should be examined to see if they are worn, and also if they separate at the right time. A gauge is given with most magnetos showing the correct distance between the platinum points. It is also important that the points should be perfectly true with one another, and if they are worn they should be filed and adjusted. Finally, the water circulating pump should be examined to see if it is working and that the pipes are free. It is a good plan at all times to fill the radiator with distilled water. Ordinary water contains lime-salts, which are apt to deposit, especially in the water-jacket, whence the deposit is difficult to remove.

Carbon Deposit and its Removal.

Carbonisation in motor engines is caused by the products of combustion and the burning of lubrication oil that has worked its way past the piston rings. It occurs in all engines, although with the careful adjustment of the carburetter and the use in correct quantities of first-class lubrication oil, an engine with ordinary work should not deposit carbon under, say, 5000 miles. Carbonisation means impaired efficiency, loss of power and speed, and (what may cause trouble) pre-ignition, which latter is the result of the deposit becoming incandescent from the heat of the explosions, and thus firing the mixture before it is compressed. Until recently the only method was to remove the cylinder covers and "curette" them. This was a satisfactory, although with modern four cylinders cast *en bloc*, rather a troublesome procedure, taking a fairly efficient driver-owner some three to four hours. It is to these that the "Cylclean" process will appeal. Mention of it has previously been made in these notes, but as several inquiries have been received as to the efficiency of this process, I visited the chief depôt of the Internal Combustion Engine Cleaning Company, Limited, and personally saw some half a dozen different engines cleaned. The method is simplicity itself. The sparking plugs, valve caps, &c., are removed. With the exhaust valves on their seats, a pilot gas jet is applied to the carbon. Then a stream of oxygen is directed on to it, which thus completely consumes the carbon and expels it. As soon as sparks cease to fly out the engine will be found to be clean. The flame is applied all round the combustion head, piston top, and valve pockets. The process does not in any way affect the metal in the cylinders, it is speedy and inexpensive, and is undoubtedly efficient. I understand that the company has 500 licensees in the United Kingdom, which means practically that there is one to be found in nearly every district. One correspondent asks whether he could oxygen-clean his cylinders himself, and there is no doubt that with a tube of oxygen and a bit of flexible copper piping it could be done, but personally I think I should prefer to have it done with the company's apparatus and by one of their licensees.

Rattling Glass Screens.

The glass in a screen is usually put in its frame with a strip of rubber under and around so as to prevent any movement. In spite of painting and varnishing the rubber is apt to wear and perish, thus causing an unpleasant rattle. To remove the glass and reinsert a fresh strip of rubber is rather a difficult proceeding. An efficient substitute is to make some papier-mâché out of brown paper and hot water and then to push this pulpy mixture between the glass and the frame all the way round, in much the same way as caulking was done on the old timber ships. After it has become thoroughly dry a coat or two of varnish should be applied.

The Legal Status of a Chauffeur.

According to a case that came recently before the county bench at Canterbury a chauffeur is a mechanic and not a domestic or menial servant. This means that he can be dismissed with a week's notice instead of a month's, as is required for the latter. It is difficult to understand how this decision was arrived at, as a chauffeur is engaged about his master's garage and in driving his employer. It is held that a gardener or huntsman, or practically any employee who has to be frequently about his master's person or grounds, is a menial servant. The conclusion would therefore seem to be that a chauffeur ought also to be considered a domestic servant, though such was not the case in the opinion of the bench at Canterbury.

The Swift Two-Cylinder Cycle Car.

I was recently able to have an interesting trial trip on this 1914 7 h.p. car. It has done well in various test runs, especially in the recent general efficiency trial. The seating arrangements are distinctly good, as one seat is placed behind the other, so as to give more elbow room, and thus to overcome one of the objections to a vehicle of narrow track. The engine is a two-cylinder one, with 75 mm. bore and 110 mm. stroke. The valves are on the near side, cooling is by thermo-syphon, and ignition by a high tension magneto with a variable timing lever close to the driver's seat. Lubrication is by gravity from a tank on the dashboard, to which an auxiliary hand pump is added. Three forward speeds and a reverse, actuated by a gate change, are provided. The transmission is by a cardan shaft universally jointed at each end. The foot brake acts on the cardan shaft, and a hand brake, which is of an expanding type, acts on the rear road wheels. Suspension is by semi-elliptical springs fitted to the front and rear of the frame. The control is by a foot accelerator, with a hand throttle also close to the ignition lever. The car was given a good test, both in traffic and over some 50 miles of Kentish roads and hills. The engine is fairly quiet and the power ample. Petrol consumption is certainly economical—about 35 to 40 miles per gallon. Of course, it is not a four-cylinder, and in traffic it is advisable, when coming to a stop, to drop down to the second speed. Changing of gears on two cylinders is often rather tricky, especially changing down, but I found that after a little practice the lower gear could be slipped home silently with simply a slight double-clutch action so as to spin the lay shaft. With a two-seated body, hood, screen, lamps, and horn—in fact, everything needed except side curtains—the price is £140, and at this it is worth considering by a doctor who is just starting motoring and needs a light and inexpensive car.

The 9 h.p. Morgan Adler Carette.

I recently had the opportunity of a short test run on one of these cars, which are put on the market by Messrs. Morgan and Co., Limited, of 10, Old Bond-street, and 127, Long Acre, London. The engine is a four-cylinder one, with "staggered" exhaust valves, and this arrangement permits of both large inlet and exhaust valves being fitted on the same side and operated by one cam shaft. The carburetter is a Zenith. Though an opening in the undershield is provided for the rare instance of a blocked jet, it would be easier, I think, to remove the whole carburetter, which can easily be done by undoing two nuts and the petrol union. Cooling is by a honeycomb radiator, the water circulating by means of a centrifugal pump. The fly-wheel has vanes on it, and so acts as a fan. Ignition is by a self-timing high tension magneto, which is held in position by a band, and so can be rapidly dismounted should occasion necessitate it. The clutch is of the metal-to-metal cone type. The power is conveyed to the gear-box by means of a shaft with a dog coupling at each end, so that the clutch can easily be removed without taking down the gear-box. Three forward speeds and a reverse are provided, all operated by a gate change lever. The final transmission is by cardan shaft and bevel drive. The foot brake acts on the main shaft, and the hand lever brakes on drums fitted on the rear wheels. Lubrication is by rotary pump, an indicator on the dashboard showing that the pump is operating. The control is by a hand throttle on the steering wheel. During the short test the engine ran very sweetly, and appeared to have an ample reserve of power. The gears were quiet in action and easy to change, and the engine picked up easily in traffic, frequently on the top speed. The clutch, though the car was a new one, was by no means fierce, and took up the drive quite gently. With two up the car easily mounted a well-known town steep gradient. A stop was made half way up the hill, and the car started again quite easily. Of course, the first speed was needed. The brakes were tested on this hill, and both sets were found separately to hold the car in both directions. The springing is satisfactory, and the body, either a tandem or sociable two-seater, is comfortable. The car, complete with hood, wind-screen, and lamps, including head lights, is sold for 200 guineas. My short run on the

car enabled me to appreciate fully its swift, quiet, and smooth running which, in my opinion, should commend it to medical men. The only suggestion I would make is that it would be an advantage to have a foot accelerator. Probably, too, it would be an advantage if the shaft between the clutch and the gear box were universally jointed at each end.

Home and Foreign Notes.

(FROM OUR OWN CORRESPONDENTS.)

LIVERPOOL.

Retirement of Mr. R. W. Murray.

IT is with much regret I announce the retirement of Mr. R. W. Murray, the senior surgeon at the David Lewis Northern Hospital. Universally regarded as one of the most able and successful surgeons in the city, he will be greatly missed, especially by his colleagues at the Northern Hospital. Mr. Murray has decided to spend some years in travel abroad and in literary pursuits. For many years he has delighted audiences at the Medical Institution by his addresses on surgical subjects, and we look forward to hearing him again when he comes to give us some account of his travels.

Royal Infirmary.

The Lord Mayor will attend in state the morning service in the Royal Infirmary Chapel on Sunday next, May 17th, and afterwards he will visit the wards. The infirmary will be thrown open for inspection, and any medical men who are able to pay it a visit will be very welcome. The Royal Infirmary has been particularly unfortunate this year in the health of its staff. At one time six of the honorary staff were away ill, and in five cases the illnesses were serious, necessitating long periods of enforced idleness. His colleagues are now delighted to welcome back Mr. W. Thelwall Thomas in excellent health, as full of energy as ever, and to see him hard at work again at the Royal Infirmary and the University. They are glad to have Mr. W. Fingland also back with them, though in his case he has felt that a long day of administering anæsthetics was too arduous, and so has had his duties lightened by being appointed consulting anæsthetist to the infirmary. The other invalids are reported to be progressing satisfactorily.

May 12th.

BRISTOL AND WESTERN COUNTIES.

Bristol Insurance Committee.

AT the May meeting of the Bristol Insurance Committee the medical referee's report showed that since last March he had seen 1000 cases. with results as follow: Fit for work, 40·2 per cent.; unfit, 33·3 per cent.; did not attend, 20·9 per cent.; returned to work, 4·3 per cent.; workmen's compensation, 1·3 per cent. In a letter to the committee the Insurance Commissioners said: "The practitioners on the panel are entitled to the whole sum available for the medical treatment and attendance of persons who do not receive their medical benefit through institutions or under special arrangements sanctioned by the committee." The Medical Benefit Subcommittee promise recommendations in regard to these unallotted funds at the next meeting. The total number of insured persons in the Bristol area now exceeds 132,000. There are 640 tuberculous persons under treatment. An arrangement for the after-care of the tuberculous has been made with the Civic League.

Anti-Tuberculosis Campaign in Bristol.

The new dispensary to which allusion was made recently in these columns is an adapted dwelling-house. It provides ample waiting and consulting rooms, a dark room for examination of throats, and a small observation ward. There is also a laboratory. One of the picture houses is at present showing a film which represents the various phases of the campaign against tuberculosis. Bristol now possesses the complete machinery for the campaign against tuberculosis, with the exception of a farm colony, which has yet to be provided.

Dental Needs of the Working Classes in Bristol.

The dental surgeons of Bristol are making a courageous attempt to meet the tremendous demand that becomes apparent in every working-class community for dental surgery at low fees. Premises have been opened in East Bristol at which a staff of 20 legally qualified dental surgeons will attend in rotation. In this way continuous attendance will be provided for between 9 A.M. and 7 P.M. (2 P.M. on Saturdays). Every kind of conservative and mechanical treatment will be carried out. A low scale of fees has been drawn up, and patients will be able to ascertain in advance the cost of any services they require. No person having an income of over £160 per annum will be eligible for treatment. In certain cases payment by instalments will be accepted. Books of coupons can be obtained by those who would like to give them to eligible persons, from whom they will be accepted in lieu of fees. Anæsthetics will be given by medical men. A trained nurse will always be on the premises.

Health of Torquay.

The medical officer of health for Torquay, Dr. T. Dunlop, in his annual report for 1913, states that the death-rate was 13·2 per 1000 and the birth-rate 13·6 per 1000. Twenty-one cases of enteric fever were notified, with 2 deaths. Dr. Dunlop remarks that apparently little attention had been paid to notices warning the public of the danger of eating shell-fish from the neighbouring tidal estuaries, as hardly a season passed without a batch of enteric cases which could only be attributed to eating "cockles." 107 cases of diphtheria were reported, and of these 89 were removed to the isolation hospital. 145 notifications of tuberculosis were received, and 43 deaths, including those of 9 visitors, occurred. Fifty-two deaths were due to cancer, an increase of 7 compared with 1912. Dr. Dunlop draws attention to the decrease in vaccination.

Royal Mineral Water Hospital, Bath.

At the annual meeting of the subscribers to the Royal Mineral Water Hospital, Bath, held recently, the medical report showed that during the year the number of patients admitted amounted to 1346, an increase compared with 1912. The financial statement showed that the income was £5397, and there was a deficit of £271.

May 12th.

SCOTLAND.

University of Edinburgh.

THE annual statistical report has just been issued for the academic year 1912–13. It shows that the total number of students was 3352. Out of that total, 3242 matriculated during the winter session, including 556 women, and 110 in the summer session, including 9 women; 1319 students matriculated in the Faculty of Medicine, 6 being women. The number of members of the general

council was 11,941. There were 241 degrees granted to men and 13 to women in the Faculty of Medicine.

George Alexander Gibson Memorial Lecture in Edinburgh.

The first lecture was delivered on May 8th in the Hall of the Royal College of Physicians. Dr. James Mackenzie took as his subject "Dr. George Alexander Gibson: an Appreciation of the Man and His Work." There was a large attendance of Fellows of the College and other members of the profession.

The National Insurance Act and the Edinburgh Royal Maternity Hospital.

The sixty-ninth annual meeting of the board of managers of this charity was held recently. The report showed that there was a considerable reduction in the number of patients, both internal and external. The total number was 1484. It was stated that in 1913 the ordinary income had fallen short of the ordinary expenditure by £300. There was thus a drop of 22 per cent. in the number of cases treated, which necessarily caused difficulty in the training of both doctors and nurses. Up to the present no remedy has been suggested to meet this need, which is felt to the same degree by all similar institutions.

Commemoration Day at Glasgow University.

Commemoration Day will be observed at the University of Glasgow on Tuesday, June 23rd. The proceedings will begin in the morning at 10.30, when divine service will be held in the Bute Hall. Afterwards an oration on Lord Lister will be delivered by Sir Hector C. Cameron. This will be followed by the conferring of the honorary degrees of D.D. and LL.D. In the evening at 7 o'clock a dinner will take place in the University buildings. The honorary graduates will be entertained as guests, and the company will also include graduates and friends of the University, including ladies.

Memorial to the late Miss Janet Galloway.

In the Bute Hall of the University of Glasgow last week a window in memory of the late Miss Janet Galloway, LL.D., a pioneer in the movement for the higher education of women, was unveiled. At the ceremony, which was largely attended, Mr. David Murray, LL.D, gave an appreciation of Miss Galloway's life and work. He described how in 1867 the first University lectures to women were delivered in Edinburgh, and next year a similar course was given in Glasgow. In 1876 there was formed the Glasgow Association for the Higher Education of Women. The University did everything in its power to further the objects of the association, and annual courses of lectures to women on university subjects were given by university professors in university class-rooms. In 1883 the association was incorporated and named Queen Margaret College, and an endowment of upwards of £25,000 was obtained. Next year the college commenced operations in its new home at North Park House, with Miss Galloway as its resident head, and in 1893 what had been dimly foreshadowed in 1868 was accomplished when control of the undertaking was transferred to the university authorities. The task of organising and carrying on the work lay with Miss Galloway, and when the college was incorporated with the university she continued as honorary secretary. In a sense it may be said that Queen Margaret College as a separate institution was Miss Galloway's creation. Later she proved herself a broadminded and judicious administrator, always in harmony with the University Court and Senate, and scrupulous in carrying out their wishes. Principal Sir Donald Macalister, in accepting the window on behalf of the University Court, paid a high tribute to Miss Galloway's work and influence.

Appointment of Assistant Tuberculosis Medical Officer in Dundee.

Dr. John Henderson Hunter, of Dundee, has been appointed assistant tuberculosis medical officer in that city at a salary of £300 per annum. Dr. Hunter, who is a D.P.H. of St. Andrews, was house surgeon and physician in Dundee Royal Infirmary, and afterwards engaged in general practice. In October, 1911, he was appointed assistant to the professor of pathology and bacteriology in the University of St. Andrews.

Montrose Royal Asylum.

At the monthly meeting of the managers of the Montrose Royal Asylum held on May 6th Dr. J. G. Havelock, physician superintendent to that institution, intimated that he would not seek re-election at the annual meeting in June. He had served the board for 25 years, and was severing his connexion with them with reluctance and regret. Dr. V. Stone, who presided, said that Dr. Havelock's term of office at the asylum had been a most successful and effective one, and assured him that the board's regret at parting with him was equal to Dr. Havelock's regret at parting with them.

Lack of Midwives in the Scottish Islands.

At the annual meeting of the Rural Midwives Association, held recently, the Marchioness of Tullibardine, who presided, gave her experiences while acting as a member of the committee formed to investigate the needs of the Highlands and Islands of Scotland in this respect. In South Uist she was told by the medical officer that there was not one qualified nurse on the island. In a neighbouring island there was only one woman, over 80 years of age. She came across another district where no doctor had seen a confinement case for years. In one case all the people were Roman Catholics, and the priest frequently found himself called upon to assist at these cases, with the occasional assistance of the schoolmaster. They had a midwifery text-book in their possession.

The late Dr. James Hunter.

I regret to record the death on April 21st of Dr. James Hunter, late of Dreghorn, Ayrshire. Dr. Hunter had been in failing health for some time, and having retired from practice he went to reside in Edinburgh. He was born in 1843 in the parish of Girvan, Ayrshire, received his early education in Girvan, and afterwards at Ayr Academy. He entered the University of Glasgow and took the degree of M.B., C.M.; he had also the degree of L.R.C.S. Edin. In 1864 he obtained the degree of M.D., with commendation. He went as assistant to the late Dr. Hamilton, of Dalry, where he remained for four years. In 1868 Dr. Hunter was appointed medical officer of health of the parish of Dreghorn, and in addition to the colliery works in the district he had a large private practice. He was an unselfish and indefatigable worker in the interests of his patients, and was much beloved by all. He was in practice for 40 years, and on retirement received a public testimonial. His wife and he spent last winter in the south of England, which

improved his health considerably. After returning home he had an attack of broncho-pneumonia, which terminated fatally. The funeral was attended by a large number of personal friends. Dr. Hunter lived an honourable and useful life, and will long be remembered by all who knew him.

May 12th.

IRELAND.

Medical Inspection of School Children.

A PUBLIC meeting, convened by the Irish Women's Reform League, was held last week in the Mansion House, Dublin, to demand that medical inspection of school children should be carried out in Ireland as in England, and that dental clinics should be established in Ireland. It has always been a puzzle why legislation such as that establishing medical inspection of school children should not have been applied to Ireland. Public opinion is now, however, demanding such extension.

The Coming Elections at the Royal College of Surgeons.

The election of President, Vice-President, and Council of the Royal College of Surgeons will take place early next month. The present Vice-President, Mr. F. Conway Dwyer, will without opposition succeed as President to Mr. R. D. Purefoy, whose term of office, to the regret of everyone, now comes to an end. Chief interest, as usual, centres about the election of Vice-President. There are two candidates, Mr. Edward H. Taylor and Mr. William Taylor. The former is surgeon to Sir Patrick Dun's Hospital and professor of surgery in Trinity College, and the latter is surgeon to the Meath Hospital. Both have strong claims, and either would make an excellent vice-president and president. Many friends of the College regret that one or other has not postponed his candidature until the next period of election.

Sudden Death of a Medical Man.

The death of Mr. R. P. Condon, of Newcastle West, occurred very suddenly last Monday. He was travelling to Dublin to seek medical advice, and when in the train became very ill. He died in the railway carriage while in Limerick Station. Mr. Condon had been for many years medical officer of the Newcastle West workhouse and dispensary district.

The Water-supply of Londonderry.

Some time ago the corporation of Londonderry sought from the Local Government Board a Provisional Order to promote a temporary stand-by water scheme, which was refused. The corporation then urged the necessity of such a scheme to safeguard the city until a large scheme could be carried out. The Local Government Board replied that this temporary scheme would result only in a limited supply of water of inferior quality, and that to approve it would induce a false feeling of security, and might delay adequate treatment of the larger issues. The board quote the opinions of experts given to the corporation since 1881, and point out that the only response to this series of warnings had been the neglect of the main question of a large and comprehensive scheme of supply from a new source and the promotion of a succession of stopgap schemes. The Local Government Board, unwilling to share responsibility for the attempts to patch up the existing system, and having regard to all the circumstances of the case, the insufficiency of the scheme, and the objections raised at their recent inquiry, again refuse a Provisional Order, and urge the corporation of Londonderry to press forward a final scheme for obtaining an ample and continuous supply of wholesome water. They further say that if waste were checked with scrupulous care and trade supplies—which account for nearly one-fourth of the consumption—were limited rigorously as soon as it appeared desirable to do so, the risk of disaster feared by the corporation would be minimised.

Belfast Tuberculosis Scheme.

There are in Belfast some 6000 tuberculous people, of whom 1000 require institutional and 5000 dispensary and domiciliary treatment. The Belfast corporation, with the approval of the Local Government Board, has appointed a chief medical tuberculosis officer and two assistants, as well as five nurses for dispensary duty and domiciliary visiting. Two dispensaries are ready, but there is delay because negotiations between the corporation and the guardians in reference to the Abbey Sanatorium are still going on and the arrangements with the Belfast Insurance Committee as regards the treatment of the insured consumptives are still unsettled.

Advanced Tuberculosis.

The treatment of advanced pulmonary tuberculosis is rendered difficult by the innate human desire to end one's days at home. It is impossible, on financial grounds, for institutions to be created all over Ireland, but the county and district councils might act on the suggestion of the Local Government Board and utilise some of the present disused fever hospitals, renamed district isolation hospitals. The Derry county council on May 9th passed a resolution to this end.

May 12th.

PARIS.

A Special Medico-legal Course at the Faculty of Medicine.

A FREE course on the relations between medicine and jurisprudence has been authorised at the Faculty of Medicine of Paris, to be given by a barrister, M. Peytel. It consists of the study of those parts of the law that it is to the interest of the medical man to know for his own advantage as well as that of his patients. It deals with those administrative regulations which the practitioner who is called on to make a report in the interests of justice cannot ignore. Recent laws relating to compulsory attendance on the aged, to workmen's compensation, and especially to industrial accidents, have greatly increased the amount of legal knowledge required by the medical man if he is to avoid being entangled in breaches of the law for which he would be held responsible if his patient suffers injury thereby. Medical responsibility is unfortunately being continuously increased nowadays by the courts. This course from the start has met with great support from both students and practitioners.

Accidents following Transfusion.

M. Wallich and M. Levaditi report an interesting observation on the possible dangers attending the transfusion of blood.[1] Hitherto attention has been directed mainly to examining the donor's blood as to freedom from syphilitic and tuberculous infection. M. Wallich is director of an accouchement service, in which the donor in tranfusion is quite commonly

[1] See THE LANCET Feb. 14th, 1914, p. 477.

the husband. He examined the blood of husband and wife in 17 cases, and in 75 per cent. found that the two bloods when brought into contact gave a very clear agglutination reaction. If transfusion had been performed in these cases it is obvious that there would have been great danger of agglutination occurring in the vessels of the recipient, and thus probably giving rise to embolism or hæmolysis. From this he concludes that it would be wise before performing transfusion to investigate the presence of such agglutination between the blood of the prospective donor and that of the recipient.

Talipes and Paternity.

Recently a young girl brought an affiliation suit against a former lover, which was energetically defended. The girl asserted as evidence of paternity that her child had a club-foot, while the alleged father suffered from the same infirmity. In default of proof that the period of conception coincided exactly with the time of relations between herself and the accused the court disallowed the claim, asserting further that club-foot was not necessarily a hereditary condition, indeed, the testimony of experts went to prove that the malformation was a fortuitous one, the appearance of which in members of the same family was without significance.

Wind Contusions.

Dr. Laurent, who has recently made known some observations on the effects of modern projectiles, has made a communication to the Académie des Sciences on the phenomena known in military surgery as wind contusions. During the wars of the First Empire numerous cases were cited in which soldiers had suffered severe injury, and had even been killed, by the near-by passage of a projectile or by its distant explosion. These cases were for the most part dealt with in treatises on military surgery as legendary. Dr. Laurent, however, observed during the Balkan war, in the campaign in Thrace, many soldiers without any wound who nevertheless showed signs of cerebro-spinal shock of a more or less serious character. These nerve shocks were evidenced by simple concussion, by tingling and twitching, and even by partial paralysis. Graver disturbances induced a cataleptic condition and were even sometimes fatal, yet at necropsy in such cases Dr. Laurent was unable to find any nerve lesion. He thinks that they are due to the vibration of the air produced by the passage of a cannon ball and to the sudden variations of atmospheric pressure impinging on the middle-ear and giving rise to inhibitory phenomena. Dr. Matignon had previously noted similar cases in Manchuria, and it seems that with the increased rapidity of modern projectiles these phenomena become more and more frequent. At any rate, henceforth these injuries can no longer be looked on as legendary, but must be accorded a place in military surgery.

Rat-bite Fever.

Sokodu, or sokishio, is an infection of undetermined character, which is always consequent on the bite of a rat.[2] It has been frequently observed in China and Japan, and of late isolated cases have been noted in Europe—among others by Dr. Horder, Dr. G. S. Middleton, and Dr. J. F. O'Carroll in the United Kingdom, and by M. Frugoni in Italy. A new case has been seen at Auxerre by M. Lagriffe and M. Loup. Although rat-bites are very frequent in France this affection is extremely rare, and it is difficult to explain the conditions of its propagation. Though the rat that gave the bite could easily have been brought to a European port in a ship, the explanation is still difficult in the case of Auxerre, which is 300 kilometres inland. It is, however, in communication with Havre by the river Seine, on which boat traffic is active. The disease is characterised by fever, headache, and lassitude, beginning some weeks, or even some months, after the bite, when the wound has entirely healed. It is accompanied by a characteristic eruption, consisting of hard, raised, red spots, having the appearance of true nodosities of variable size. The disease proceeds by exacerbations at greater or less intervals, and in the Far East is frequently fatal. Hitherto the cases in Europe have presented only a single attack and have generally resulted in cure. But there is ground for fear that, as in the case of other exotic infections imported into western climes by the development of means of communication, acclimatisation may become rapid, so that western pathology will become enriched by still another disease.

Rapid Treatment of Fracture of the Clavicle.

Dr. Couteaud, Médecin en Chef of the Navy, has devised an ingenious method of treating fractures of the clavicle, which allows a cure to be obtained in about eight or ten days without bandages or apparatus, and without leaving any callus. This method, which is already some years old, has been modified by Dr. Couteaud, and has been communicated by him to the Académie de Médecine. It has been so simplified that anyone can apply it. It consists in making the patient lie on a low bed, letting the arm corresponding to the fractured clavicle hang vertically down outside the bed, the forearm being bent and resting horizontally on a cushion on the floor. This is, in fact, only the application of the principle of continuous extension, of which the position of the shoulder allows a remarkable attainment. In this posture the two fragments of the clavicle appose themselves face to face without any necessity for manipulative reduction, and union takes place in a very short time without the formation of inflammatory callus. In comminuted fractures with much displacement of the fragments, formation of detached splinters, and perforation of the skin, suture of the bone may be useful in exceptional cases, but Dr. Couteaud asserts that even then it is not indispensable. For working men he has observed cases in which it sufficed to maintain this posture by night, the arm being retained in position by day with the usual bandages.

May 11th.

BERLIN.

The Modern Treatment of Syphilis: Professor Lesser's Experience.

THE above subject has been discussed during several meetings of the Berlin Medical Society, the introductory address being read by Professor Lesser, head of the department for venereal diseases in the Charité Hospital. He said that there were four discoveries which had had the effect of bringing about a great advance in the treatment of syphilis. These discoveries were (1) the micro-organism of syphilis—namely, the spirochæta, (2) the conveyance of syphilis to

[2] THE LANCET, March 2nd, 1912, p. 596, and Dec. 20th, 1913, p. 1764.

animals, (3) the Wassermann reaction, and (4) salvarsan. The discovery of the spirochæta had enabled us to cut short the case by the excision of the chancre before general symptoms had developed and to proceed at once with a combined treatment by means of mercury and salvarsan. When after this proceeding the Wassermann reaction remained negative for two years it might be assumed that the case had been successfully checked. Cases which came under treatment only after the development of general symptoms must be treated by a combination of mercury and salvarsan. Cases with a negative Wassermann reaction might be treated from the beginning with salvarsan; in other cases the use of mercury must be kept up for 10 or 12 days previously to the employment of salvarsan. An energetic course of treatment consisted in the administration of mercury during six weeks and three injections of salvarsan. By this means the Wassermann reaction became negative in 62 per cent. of the cases, whilst in cases treated for four or five weeks only 32 per cent., and of those treated for less than four weeks only 14 per cent., showed a negative reaction. In tertiary syphilis a combined treatment with mercury and salvarsan was indicated, but special attention was necessary in affections of the central nervous system, the liver, and the kidney. In patients suffering from syphilis of a very severe type the effect of treatment with salvarsan was striking and greatly superior to that obtained by any other method. In general paralysis no reliable improvement had been brought about, but in tabes dorsalis some subjective symptoms had been relieved. Professor Lesser said that he gave three or four intravenous injections of salvarsan at intervals of 10 or 14 days, the dose being from 0·3 to 0·4 gramme for men and from 0·2 to 0·3 gramme for women. Undesirable reactions had become more and more rare since a combination of mercury and of salvarsan has been the standard treatment and since the water has been sterilised previously to each injection. The recurrences of symptoms referable to the nervous system which were alleged to be due to the administration of salvarsan were undoubtedly of syphilitic origin, and passed off under anti-syphilitic treatment, although their frequency under salvarsan made it very likely that there was some connexion between them and the use of that remedy. Fatal results were undoubtedly sometimes produced by the administration of salvarsan. Neosalvarsan had no advantage as compared with salvarsan except that it might be injected subcutaneously.

Views of Other Observers.

In the discussion Professor Wechselmann expressed opinions at variance with those of Professor Lesser. He said that he administered salvarsan without mercury in every case of syphilis. The undesirable symptoms which occurred were considered by him to be due to the combination of mercury and arsenic—a combination which interfered with the functions of the kidneys, and in this way hindered the excretion of salvarsan. Death occurring during treatment with salvarsan was caused by syphilitic endophlebitis. Professor Wechselmann claimed that in recent cases of syphilis he was able to secure the recovery of nearly every patient and to produce a negative Wassermann reaction by the administration of salvarsan. He has given as many as 40 injections to a patient without producing any ill effect. In 45,000 injections no case of death had occurred. In the patients treated since 1910, the first year of the salvarsan method, no tertiary symptoms have developed, although these symptoms, according to statistics compiled by Professor Fournier, used to become manifest in the majority of cases within the first four years after infection. Professor Blaschko said that abortive cures with salvarsan were possible when no general symptoms had as yet developed. In tabes dorsalis no permanent recovery but only certain improvements had been observed, such as reappearance of reflexes, disappearance of pain, and a change for the better in the patient's general state. In some cases where salvarsan had proved unavailing a successful result had been obtained by mercury, and this had led to the combined administration of salvarsan and mercury. The treatment must not be based on the result of Wassermann's reaction alone. A definitive judgment as to the utility of salvarsan could not be given until ten years had elapsed. Professor Oppenheimer reported 135 cases of metasyphilitic diseases which had been treated during the past two years with salvarsan. He said that tabes dorsalis and general paralysis must be regarded as occupying a special position notwithstanding the presence of spirochætæ. Of the above cases 20 were syphilitic affections of the brain, of which 8 were successfully treated; in 3 the symptoms became worse, in 9 the effect was negative, and in 4 cases there were recurrences of nervous symptoms which recovered under continued treatment. Of 15 cases of syphilitic affection of the spine 6 recovered, 2 became worse, and in 7 the effect was negative. Of 50 cases of tabes dorsalis there were 10 in which some symptoms were improved, 11 became worse, and in 29 the effect was negative. Of 24 cases of general paralysis there were 15 in which no result was obtained, 6 showed a rapid progress, and in 3 cases a remission was observed. No fatal result occurred among his cases. The majority of the other speakers, who were very numerous, expressed themselves in favour of a combination of salvarsan with mercury.

May 11th.

BUDAPEST.

Prevention of Ophthalmia Neonatorum.

As the measures hitherto employed for the prevention of ophthalmia neonatorum have not been found satisfactory, the Minister of Public Health has issued a circular according to which every midwife is required to apply one drop of a solution of acetate of silver to each eye of every newly-born infant. The circular lays down the following rules:—

1. Midwives shall carry in their bags 20 grammes of a solution of acetate of silver of 1 per cent. strength and a dropper in a special box. 2. At the birth, after the delivery of the head, the midwife shall well wash the child's eyes with clean tepid water and shall dry them each with a separate piece of gauze or linen. If for any reason the washing of the eyes cannot be done immediately after the birth of the head it must be done afterwards before the infant is bathed. 3. Before being used the eye-dropper must be cleansed both inside and out with tepid water. 4. The midwife shall be exempted from this obligation only in the event of the instillation of the solution having been performed by a medical practitioner. ..... 7. Midwives neglecting these rules make themselves liable to fines not exceeding 200 kronen, and to 15 days' imprisonment for a repetition of the offence.

Sale of Ether in Grocers' Shops.

The Chief Board of Health has refused to grant a request made by a deputation of grocers who applied for permission to sell ether. The Board considered, firstly, that grocers' shops are not suitable places for the storage of ether consistently with public safety; and secondly, that the sale of it by grocers would encourage the reprehensible practice of ether-drinking which has been introduced into Hungary by persons who have returned to their native country after emigration to America, where they have acquired the habit. This is so much the case that in a certain Hungarian county where there are hundreds of returned emigrants the practice of ether-drinking is quite common.

Lunacy in Hungary.

According to the published statistics the number of lunatics under detention in the public asylums has been increasing steadily since the year 1890. Last year it was 10,253, and the expenditure of the Government in connexion with these institutions amounted to more than 5,000,000 kronen. About 600 lunatics have been placed under the care of families, and in private sanatoriums for this class of patient there are from 500 to 600 inmates, so that the total number of certified lunatics amounts to about 11,500.

Post-graduate Medical Study in Hungary.

The central committee of the Hungarian Post-graduate Institute has established courses of instruction in 15 towns, particular attention being naturally paid to those which are held in Budapest, the capital of the country. In this city courses of four weeks' duration are held on single subjects, an arrangement by which a special subject may be thoroughly studied. Not only are there no class fees, but country practitioners, particularly those in the service of the State, receive 8s. 6*d*. per day towards their expenses and travel free of charge in order to encourage them to take advantage of the instruction. The special subjects of study include occupational diseases, accidents and injuries to workpeople, treatment of incipient tuberculosis, and treatment of incipient insanity.

May 9th.

TRAINING OF THE BLIND.—A Departmental Committee has been appointed by the President of the Local Government Board to consider the present condition of the blind in the United Kingdom and the means available for their industrial or professional training and for their assistance, and to make recommendations in connexion therewith. The chairman is the Right Hon. W. Hayes Fisher, M.P., and the medical members of the committee are Sir Arthur H. Downes, senior medical inspector for Poor-law purposes under the Local Government Board; Mr. H. B. Grimsdale, ophthalmic surgeon to St. George's Hospital; and Sir Thomas J. Stafford, medical commissioner to the Local Government Board of Ireland. Mr. R. B. Cross, of the Local Goverment Board, is secretary to the committee.

CONFERENCE ON INFANT MORTALITY. — The Right Hon. Herbert Samuel, President of the Local Government Board, will give the inaugural address at the National Conference on Infant Mortality, which is to be held at Liverpool on July 2nd and 3rd, under the auspices of the National Association for the Prevention of Infant Mortality and for the Welfare of Infancy. Among the subjects for discussion are milk sterilisation, ante-natal hygiene, the teaching of infant hygiene to the elder girls in elementary schools, the scope and functions of schools for mothers, and the special responsibilities of sanitary authorities in regard to infant welfare. A large number of local authorities and voluntary associations for infant welfare have already appointed delegates.

Obituary.

JOHN ABERCROMBIE, M.D. CANTAB., F.R.C.P. LOND.,

CONSULTING PHYSICIAN TO CHARING CROSS HOSPITAL.

THE death took place on April 30th at Augill Castle, Brough, Westmorland, of Dr. John Abercrombie, consulting physician to Charing Cross Hospital and to the Foundling Hospital, and formerly assistant physician to the Hospital for Sick Children, Great Ormond-street.

John Abercrombie was born in 1851 at Cheltenham, where his father, Dr. John Abercrombie, was a prominent physician. He came of Scottish stock: his paternal grandfather, John Abercrombie, was one of Wellington's surgeons; his great-grandfather, John Abercrombie, was Provost of Aberdeen. He was educated at Eton and at Cheltenham College, and proceeded to Caius College, Cambridge, afterwards studying medicine at St. Bartholomew's Hospital. He obtained the M.B. degree of his University and the Membership of the Royal College of Physicians of London in 1877, and was appointed house physician to his uncle, the late Dr. Partick Black, then physician to St. Bartholomew's Hospital. In 1880 he proceeded to the M.D. degree, and in the following year was appointed assistant physician to Charing Cross Hospital. In 1890 he was promoted full physician, and resigned from the active staff in 1905, when he was elected consulting physician. In the medical school of Charing Cross Hospital he served as lecturer on forensic medicine from 1882 to 1901, and in the four following years he was lecturer on medicine. In 1886 he was elected to the Fellowship of the Royal College of Physicians of London.

Dr. Abercrombie's period of office on the medical staff of the Hospital for Sick Children extended from 1884 to 1893. From 1890 up to the time of his retirement from practice he was honorary consulting physician to the Foundling Hospital, of which institution he was elected a governor in 1897.

In this extensive field of work Abercrombie steadily gained for himself a high name as a physician, a teacher and a man of culture. In the out-patient rooms and in the wards, more particularly in the children's wards, his practice was followed very regularly by the students, who came to appreciate both the direct instruction that he gave them, and even more the lessons that he taught them by his sound methods of observation, of sifting and weighing evidence, and of reaching a practical conclusion. His manner of teaching was quiet and deliberate, free from all attempt at display of personal distinction, but carrying with it a sense of thoroughness and conviction. On his colleagues at the "consultations" which were in fashion in those days the same impression was made of the peculiar soundness and value of his opinion in difficult cases. In the medical school his lectures on forensic medicine were of a high order, for the subject was one which was congenial to the character of his mind, and on which he wrote a successful text-book, "The Student's Guide to Medical Jurisprudence." And here it may be noted that in later years he became a Justice of the Peace for Westmorland, and but for failing health would have filled the office of High Sheriff of the county.

Looking back at Abercrombie's connexion with the different medical societies, one finds him

always more active as an officer than as a simple member. In his quiet way he was more ready to assist in the management than to contribute to the papers and discussions, and his devotion to the duties of treasurer of the Ophthalmological Society and treasurer of the Association of Medical Officers of Schools was highly appreciated. At the Royal College of Physicians he was an examiner in medicine, and his election on the Council was a proof of the respect felt by the Fellows for his judgment and character.

Those of Abercrombie's friends who were most intimate with him in the early part of his career tell us that his excursions into serial medical literature—the work of abstracting, translating, annotating, reviewing, and generally subediting for weekly and monthly journals—were not made exactly *con amore*. He laboured at medical journalism, as so many young physicians have to labour, in order to keep himself abreast with knowledge and make his position in the profession secure. For a short time he was on the staff of the old *Medical Times and Gazette* when Dr. Philpot was editor, that is, after the days of Druitt, Webb, and William Cholmeley. We believe it was under his leadership that the "Dictionary of Practical Medicine" was begun—to be completed by others. The truth is that what time Abercrombie could spare from professional work, which was now coming to him as a consultant, he began to give more and more to the indulgence of his taste for art. He was a musician of no small accomplishments, but first and chiefly a student of sacred art. Guided by a naturally true and carefully cultivated judgment in this direction, and one of a small coterie of amateur enthusiasts, he formed a collection of Italian and Spanish pictures of the fifteenth and sixteenth centuries, both extensive and of rare beauty and value, which included a Murillo and, as he believed, a Leonardo. Apart from his earnest, quiet work in the wards—his other delight—Abercrombie was best seen and understood in his consulting-room, which was to him less a consulting-room than the home of his treasures of art. He would spend hours on end in minute technical study of artists' methods and materials, and more than once he succeeded in discovering original beauties hidden under tasteless "restorations." It was always a pleasure to him to show and discuss with his friends these and other articles of virtu—jewels, miniatures and precious family relics. He was a Freemason, one of the founders and Past Masters of the Chère Reine (Charing Cross Hospital) Lodge.

In 1903 he married Miss Evelyn Graham, "Sister Victoria" of Charing Cross Hospital, daughter of James Aspinall Tobin, of Eastham House, Cheshire, and sister of Mr. A. Aspinall Tobin, K.C., M.P. With her and their two children his life gradually became less public, more given to the delights of his home and its happy attractions. A little later and his friends were not surprised to learn that he had relinquished practice and his valuable professional appointments in London, and taken up a new life in one of the dales of Westmorland, on the Augill stream, near Brough. There, in a quaint castellated old house with oak-panelled rooms and groined ceilings, where his pictures found a fitting resting-place, in his gardens and in his fields as a country squire and a county magistrate, he was entirely happy. And his happiness was of the truly unselfish kind. He and his wife took in hand the social good of Brough, and a large share of their time and interest was given to it. Abercrombie's character was always easy to read by those who were among his colleagues and intimate friends. He loved, cultivated and practised all that is true and fair and beneficent. In his practice in hospital or as a consultant, and in the simple everyday duties which he took upon himself in his retirement, he was the same thoughtful, wise, but modest unpretentious man, deliberate and sound in judgment, and always honest and generous.

The last year or more of his life was a period of failing health and almost constant suffering bravely borne. His funeral well became his life, for his body was carried to the grave on the farm float, drawn by his own horse, and accompanied by a reverent gathering of the many neighbours, rich and poor, to whom he had proved himself a true friend.

THOMAS FREDERICK PEARSE, M.D. BRUX., F.R.C.S. ENG., M.R.C.P. LOND., D.P.H. CAMB.,

LATE HEALTH OFFICER OF CALCUTTA.

A FEW weeks ago we announced with regret the death of Dr. T. F. Pearse, who had been connected with the Calcutta corporation for a considerable period of time and was its health officer for six years.

Thomas Frederick Pearse came of an old Devon family, and was the only son of the late Francis Bryant Pearse, F.R.C.S. Eng. He was born at Haverstock Hill in 1856. Having already made a name as a promising student, he went in 1874 from University College, London, to the Middlesex Hospital with an entrance scholarship. He obtained many prizes in the medical school, including the Broderip scholarship in 1877. After qualifying M.R.C.S. Eng. and L.S.A. in 1878 he obtained the M.D. Brux. degree and was appointed to the resident staff of the Middlesex Hospital as house physician to Dr. William Cayley. In 1875 he became demonstrator of anatomy in the medical school of the hospital, in which office he made a reputation as a hard worker and successful coach. He obtained the M.R.C.P. Lond. in 1887 and the F.R.C.S. Eng. in 1888. Between 1879 and 1896 Dr. Pearse practised successfully in various parts of England. To a sound knowledge of his profession he brought an attractive and sympathetic personality. He was the inventor of several surgical instruments and appliances, and contributed a number of books, papers, and reports to the medical literature of his time, while for some years he was an esteemed Indian correspondent of THE LANCET.

An intimate friend sends the following appreciation: "Much of Pearse's life was spent in India on the Plague Commission and as health officer to Calcutta. Here he brought to bear gifts of a high order, for in six years he reduced the death-rate of the second city of the Empire 6 points per 1000; he further brought about reforms in vital statistics, food purification, and infant hygiene, while he systematised records and returns. In 1906 the corporation of Calcutta presented him with a testimonial in recognition of his valuable services on behalf of the health of that city, and in 1911 he was made honorary surgeon to the St. John Ambulance Brigade in Calcutta, while after the King's visit to India he received the Durbar medal. Pearse was prolific with his pen, while his interest ranged over a large number of subjects. Though extremely versatile he was always modest and unassuming. He was a fluent speaker and gifted lecturer, facile in dialogue and debate. Failing health compelled him

to resign his appointment as medical officer of Calcutta, and he left for England in April, 1913. For many months he had suffered from heart trouble, which the Indian climate and an arduous life of public and professional endeavour accentuated. He reached England broken down in health, and a long and painful illness followed, throughout which he was nursed by his wife, an Irish lady, with loving and loyal devotion and care. He passed away on April 14th and was cremated at Golder's Green on April 18th. He gave his life to science and his heart to the relief of suffering, and by his death medicine loses an ornament."

Correspondence.

"Audi alteram partem."

THE BOY SCOUTS MOVEMENT.

To the Editor of THE LANCET.

SIR,—As a member of council of the Boy Scouts I have been requested by the Chief Scout, Sir Robert Baden-Powell, to write to you regarding the appeal he is now making for £250,000 for a permanent endowment fund, the income from which will be spent for the Boy Scouts movement. Companies of Boy Scouts are now being formed all over the world, and everywhere in this country they are to be seen on Saturday afternoons. No one can fail to be struck by their alert, cheery looks as they pass along the roads, by their civility when addressed, or by their willingness to help to the utmost of their power whenever they are asked.

But it is probable that many of those who are familiar with their appearance have never thought that the Boy Scouts is probably the greatest educational movement of modern times. It is not one-sided, it does not cram the boys with book learning, but it draws out the best that is in them. It trains them in body, in mind, and in morals. It trains their bodies by well-directed exercise in the open air. It trains their minds to observe exactly, to think clearly, to decide quickly, and to act promptly, whether in returning a lost child to its parents or stopping a runaway horse. Last, but not least, it trains their morals by establishing a "scout conscience." Everyone knows how much more sensitive a "schoolboy conscience" is to a breach of the traditions of his school than to a breach of the masters' rules, and in the lives of many, perhaps of most people, the opinion of Mrs. Grundy is more potent than the Ten Commandments in deterring them from doing evil and inducing them to do well. The "scout conscience" is as powerful as the schoolboys', and its great virtue is its unselfishness. The scout must not do anything unworthy of a scout however pleasant it might be, he must be ready to obey proper authority, he must think of others as well as of himself, he must be ready to help when needed, and he must do at least one good deed without hope of reward every day of his life. It is easy to see what an influence such a training as this will have on the lives of the coming generation. To-day the bane of the world is selfishness. In the family it leads to discord and causes the children to neglect the wishes and be indifferent to the comfort or necessities of their parents. It causes the parents to neglect their children and leave them to chance or to the State. It leads the employers of labour to be careless of the needs of their employees. It leads the workmen to shut their eyes to everything but their own desires, to disregard the engagements entered into by their own representatives, and to arrange strikes which will bring much suffering to the wives and families of their fellow workmen as well as a maximum of discomfort or even danger to the whole community. It is most disheartening when one asks help for a philanthropic object to be met by the question, "What am I to get out of it?" and to find that when the questioner sees no prospect of personal advantage he promptly refuses his aid.

To this condition of selfishness there are numerous and noble exceptions. Not the least of these is afforded by the medical profession, whose members, brought as they are by their work into daily contact with sickness, sorrow, and death, give freely of their time, skill, strength, and health, and even sacrifice their lives to an extent which only they themselves know. Often they refuse to take the money which their services have well deserved, and out of their hard-earned savings they give for philanthropic objects more than they can well afford. How very different the spirit is, which actuates many who seek their aid, they have, alas! too many opportunities of learning. The same unselfish spirit that animates the medical profession is what the "scout conscience" is trying to instil into the boys of the present time, who will be the men of the future. For this reason the Boy Scouts movement deserves well of the medical profession, but not for this reason only. Although every advance in hygiene tends to lessen sickness and thus diminishes the fees which attendance on the sick would bring to them, medical men have consistently disregarded their own interests and have welcomed and assisted every movement that promised to lessen disease and increase the health and strength of the people. The Boy Scouts movement is doing much for the physique of the rising generation, but there is much more to be done. As the Chief Scout says, in the slums of our great industrial centres thousands of the poor-class boys are never given a chance to start fair in the race for life, though they might become good citizens and valuable assets to the nation were a little trouble taken to help them. This is one of the things the Boy Scouts movement proposes to do as soon as a sufficient income can be assured to provide the necessary organising staff for this purpose as well as for the training of scoutmasters throughout the country. The Chief Scout is making an urgent appeal for £250,000, as I have already mentioned. Boys there are in plenty who are willing to give their time and energies to the work of scouts, but they need training, and there are not enough scoutmasters, and, willing as they are to do their very best, some of them are insufficiently trained themselves.

This appeal of the Chief Scout is certain to find a welcome amongst medical men. As a rule they are not rich themselves, but I feel sure they will give according to their means, and amongst their patients and friends they may find many who are both able and willing to give provided they are assured that the object is good. In his appeal the Chief Scout says that one friend of the movement writes: "I will give £500 if 100 others will do the same." Another writes: "I will give £100 if 1000 others will do likewise." For my own part I will make one of this 1000, and I trust that every

medical man throughout the country will not only contribute as much as he can himself but will induce others to do likewise for the sake of the coming generation and the country.

I am, Sir, yours faithfully,

Stratford-place, May 9th, 1914. LAUDER BRUNTON.

"ENCYCLOPÆDIA MEDICA."

To the Editor of THE LANCET.

SIR,—My attention has been drawn to a circular which has been sent round by Messrs. Green, of Edinburgh, calling attention to a work which is in process of publication termed the "Encyclopædia Medica." To this work a number of writers are said to contribute, and I find amongst them my own name, with the description after it, "Master of Rotunda Hospital, and Professor of Midwifery, Dublin." As I in my present position of Master of the Rotunda, or in my former position of Professor of Midwifery, have never had anything to say to the work in question, I think some correction is necessary.

About the year 1898 I was asked to contribute some two or three articles to the "Encyclopædia Medica," and I contributed them. Since that time I have never had an opportunity of correcting what I wrote, nor have I been asked to do so for the edition which is in process of preparation. Consequently I consider that I should be doing wrong in not pointing out that any articles which are attributed to me in the forthcoming edition may or may not represent my opinions at the present time, and that I take no responsibility for them whatsoever.

I am, Sir, yours faithfully,

HENRY JELLETT.

Rotunda Hospital, Dublin, May 5th, 1914.

THE ELECTRICAL TREATMENT OF MILK.

To the Editor of THE LANCET.

SIR,—In the annotation on the above subject in THE LANCET of May 9th you call attention to the fact that no information has been given about cost in my report. The explanation of this is very simple. The report was on the results obtained by a small experimental, and a large scale (also experimental) plant, the whole cost of which was borne by the health committee of the city of Liverpool, to whom the report was issued. There was, therefore, no need to report on the cost to a body which had all the detailed accounts. I would also point out that the actual laboratory workers on the process had a definite object in view—i.e., to produce a plant which would be suitable for dealing with milk supplied from the corporation milk depôts of this city for the use of babies, and which would be more satisfactory than the present steam sterilisation method. For larger supplies a larger plant at an increased cost would be necessary, and there are other factors which would make it very difficult to give an estimate of cost without actual details in each individual case being first obtained.

The report was circulated in order to invite criticism and that workers on this field might know what progress had been made. Our whole conception of the process is that it is a scientific experiment which, if the success already obtained is continued in future work, will prove of practical and economic value in dealing with contaminated milk-supplies; but we deprecate most strongly the introduction of the commercial aspect into the question. We are anxious to give all information and all facilities to anyone working on the scientific side, and would welcome the erection of a similar plant in any other scientific institution; but to municipal authorities or others who wish to use the plant for dealing with their milk-supplies we would say, wait until the process has had at least a year's trial, when its efficiency and its economic possibility will be proved or disproved.

In regard to your remarks about purity at the source of our supplies I most cordially agree, but the condition for which we are all striving, a pure milk-supply, seems still in the far distance, and it would be a fatal policy to reject temporary and even imperfect measures while we are trying to reach the ideal. Liverpool's health committee stands, I think, alone in maintaining at considerable cost its corporation sterilised milk-supply depôts, but this fact has not caused it to relax in any way its efforts to secure a pure milk-supply.

I am, Sir, yours faithfully,

J. M. BEATTIE,
Bacteriologist to the City of Liverpool.

University of Liverpool, May 12th, 1914.

THE CAUSATION OF POST-OPERATIVE MASSIVE COLLAPSE OF THE LUNG.

To the Editor of THE LANCET.

SIR,—The clinical features of post-operative massive, or lobar, collapse of the lung are gradually becoming recognised, and observers appear to be in agreement concerning them, but opinion is still divided as to the cause.

Although my efforts have been chiefly devoted to establishing the clinical characters of the condition, certain features of post-operative collapse and the association of an exactly similar state of the lung with definite paralysis of the essential muscles of respiration have, from the first, led me to believe that the phenomenon is determined by some reflex nervous agency. But I have always been conscious of the difficulty of accounting for it by simple inhibition of action of the diaphragm on the affected side.

The interesting and suggestive article of Dr. T. R. Elliott and Dr. L. A. Dingley in THE LANCET of May 9th makes some important additions to our exact knowledge of massive collapse, for they have found under X rays that the affected lobe is completely collapsed, that the heart is considerably displaced, and the diaphragm immobile on the affected side, thus confirming conclusions which were based on unaided physical examination. Their examination of the various means by which collapse of the lung may be brought about emphasises the difficulties attending the "reflex diaphragm inhibition" hypothesis, which I have tentatively advanced.

After giving reasons for believing that the bronchiole muscles can contract to the point of cutting off the air entry to the alveoli, they reject this explanation on the ground, as I read them, that it is most unlikely that the bronchiole muscles in man would be excited to such a reflex action locally and cause lobar collapse, and, further, that collapse from such a cause would not occur without a preceding phase of asthma. Now this, to my mind, is the most suggestive part of their paper. For although we have still much to learn about the function of the bronchial muscles, there seem to be fewer *a priori* objections to sudden complete reflex spasm of the bronchiole muscles of one lobe as a

cause of lobar collapse than there are to the sudden simultaneous occlusion of all the bronchioles of one lobe by viscid secretion, which is the view favoured by Dr. Elliott and Dr. Dingley. The objection on the ground of the absence of an asthmatic phase is not a serious one. As the bronchiole spasm would differ in kind or degree in the two conditions, differences in the type of dyspnœa need occasion no surprise. Against the difficulty of accounting for the limitation of such a reflex to a single lobe the simultaneous interference with the function of the distending muscle of that lobe may conceivably contain the answer. For it must be remembered that experience based on the study of cases of paralysis of the muscles of respiration shows that there is a close correspondence between the area of lung affected and the range of action of the paralysed muscle.

The explanation of acute lobar collapse by simultaneous blocking of all the bronchioles of one lobe (and one lobe only) by viscid secretion appears to me to be open to the following objections. (*a*) The inherent improbability of the limitation of an acute infective process to the whole of the bronchioles of a single lobe, simultaneously. (*b*) The complete absence in several of the recorded cases of any premonitory symptoms suggesting bronchial trouble. (*c*) The appearance—within two or three hours of onset, or even sooner—of greenish, airless, mucopurulent sputum: an order of events quite at variance with the appearances usually presented by the expectoration in the initial stages of acute bronchial inflammations. (*d*) The rapid and complete disappearance of cough and expectoration in uncomplicated cases (i.e., without secondary broncho-pneumonia) after an interval of from 24 to 48 hours. (*e*) The occurrence of well-marked cases of post-operative massive collapse without any cough or expectoration at all. (*f*) Why should a strictly limited lobar bronchitis, such as that postulated, arise only in connexion with a certain kind of operation; and why should this type of bronchitis be especially associated with operations on the appendix and the pelvic viscera? (*g*) The initial pyrexia is not an argument of much weight in favour of acute bronchial infection, as it may be met with in other conditions in which a large tract of lung is suddenly placed out of action—e.g., pulmonary infarction.

If I have laid too much stress on muscular paralysis or inhibition as a factor in causation I think Dr. Elliott and Dr. Dingley have erred in like manner in regard to the viscid secretion. For all that their communication is of very real value, and will, I believe, prove to have taken us forward a step in the elucidation of the cause of post-operative massive collapse. As regards the viscid expectoration I adhere to the belief that its characters and amount depend on the condition of the affected lobe at the moment of collapse; in other words, that it consists of the contents of the lobe, which are expressed from it as it collapses.

I cannot admit, as Dr. Elliott and Dr. Dingley suggest, I fancy out of courtesy to myself, that there can be two mechanisms of post-operative lobar collapse. We are, I believe, both of us wrong at present, but I have an impression that the stone they have rejected and I am disposed to pick up will find a place in the construction of the true theory of massive collapse.

I am, Sir, yours faithfully,

Chandos-street, W., May 11th, 1914. W. PASTEUR.

THE MEDICAL INSURANCE AGENCY.

To the Editor of THE LANCET.

SIR,—I would like to draw the attention of members of the medical profession to the advantages of effecting insurances through the medium of the Medical Insurance Agency.

The agency was started originally with the idea of assisting medical men to arrange their insurances under the Workmen's Compensation Act when that Act came into force in July, 1907. Its scope and usefulness, however, have developed to a large extent, and a great deal of business, notably life and motor-car insurance, is being transacted, and the steadily increasing numbers who insure through the agency show that its efforts are appreciated. The object of the agency is to assist medical men in the choice of an office in which to place their insurances. The business transacted by the agency is not confined to any particular office, but endeavours are made to place insurances to the best possible advantage of the members.

Those taking advantage of the agency not only help themselves but at the same time contribute towards helping deserving medical charities, as, after allowing rebates to insurers and the payment of working expenses, any surplus so remaining is distributed in the above manner. Since its inauguration the agency has refunded to insurers something like £3000, while in addition no less a sum than £800 has been distributed to medical charities.

Full information as to all classes of insurance may be had on application to the Medical Insurance Agency, 429, Strand, London.

I am, Sir, yours faithfully,

G. E. HASLIP,
Chairman of the Committee, Medical Insurance Agency.

London, W.C., May 8th, 1914.

DOMICILIARY TREATMENT OF TUBERCULOSIS.

To the Editor of THE LANCET.

SIR,—I am instructed by the Huntingdonshire Medical Committee to send you a copy of the following resolution which was carried unanimously at its meeting on May 5th.

That in view of the necessity of treating many cases of tuberculosis at their own homes it is absolutely necessary that in a rural area such as this the local medical men should take a share in the treatment.

I am, Sir, yours faithfully,

Huntingdon, May 7th, 1914. J. R. GARROOD.

DIATHERMY IN VESICAL HÆMORRHAGE.

To the Editor of THE LANCET.

SIR,—We have read with much interest Mr. R. H. Jocelyn Swan's excellent paper on Tumours of the Urinary Bladder, published by you last week, particularly with regard to the treatment of hæmaturia in cases of carcinoma where radical operation cannot be carried out, and notice that he makes no reference to "diathermy" treatment. Whatever effect this treatment may have on the growth itself there can be no doubt whatever as to its effect on the hæmorrhage in certain cases, and in our series of four—which we hope to report in due course—we have succeeded in arresting severe hæmorrhage for months. As the treatment can be carried out with no more discomfort to the patient than the introduction of an ordinary catheter passed most gently and with strict aseptic precautions, we think this

method of treating vesical hæmorrhage should prove a distinct advance on the methods described by Mr. Swan as being standard ones.

We are, Sir, yours faithfully,

C. E. IREDELL.
Guy's Hospital, May 12th, 1914. RALPH THOMPSON.

MEDICAL PRACTICE UNDER THE INSURANCE ACT: THE ALLEGATION OF BRIBERY.

To the Editor of THE LANCET.

SIR,—My attention has been called to the remarks which your Special Commissioner recently made on the subject of the bribing of insurance agents, and I shall be glad if any of your readers who can give any further information with regard to this matter would communicate with me so that any possible action may be taken to stop a very unfair and odious practice.—I am, Sir, yours faithfully,

R. M. LEONARD,
Secretary of the Secret Commissions and Bribery Prevention League, Incorporated.
9, Queen-street Place, London, E.C., May 8th, 1914.

THE LATE COLONEL J. O. WILL, R.A.M.C.

To the Editor of THE LANCET.

SIR,—I have to thank you for your great kindness in inserting an appeal from Drs. Blomfield, Dick, and Sichel on my behalf. A very great many have most kindly responded, and I should be much obliged if you would allow me to convey to them through your paper my most grateful thanks. I am trying to write to them personally but have not all their addresses. If you will allow me I should like also to publish in your columns later on a statement of the total amount received. Again thanking you, I am, yours truly,

K. E. WILL.
Brunswick Lodge, Dunton Green, May 12th, 1914.

WILLIAM HAWES AND ALEXANDER JOHNSON.

To the Editor of THE LANCET.

SIR,—It is flattering to an occasional writer to find that a medical historian so erudite as Dr. Raymond Crawfurd should not only read him, but point out his supposed delinquencies. The gist of Dr. Crawfurd's criticism in your issue of May 2nd is that Hawes was a plagiarist and somewhat of an impostor. But is this quite a fair view of the case? William Hawes is allowed the title of M.D. by his biographer in the "Dictionary of National Biography," and is also referred to in the same article as "physician to the London Dispensary." This title of M.D. apparently dates from 1780–81, according to his German biographer (Biogr. Lex., 1884).

That he was a plagiarist is open to grave doubt. According to his biographer in the "Dictionary of National Biography" he derived his ideas from his friend Dr. Cogan's translation from the Dutch of "Memoirs of the Society instituted at Amsterdam in favour of Drowned Persons," 1767–71. This translation was made in 1773 on Thomas Cogan's return from Holland. Hawes probably used Cogan's translation again when writing on the subject of premature burial in the Annual Register (1777).

Alexander Johnson's chief pamphlet, published in 1773, republished under a different title in the same year, is mainly made up of cases "selected from the (Dutch) Society's account of the success of its undertaking." These cases fill nearly the whole pamphlet from p. 11 to p. 138. It is, in fact, little more than a compilation or transcript from the Dutch. The few introductory pages scarcely count, except that with some appearance of spleen they omit the names of Hawes and Cogan from a list of those interested in the recovery of the drowned. Dr. Fothergill's name does appear in the list, and again he figures with Hawes and Cogan in the foundation of the Royal Humane Society. He was apparently in sympathy with both sides and was, moreover, an M.D. (though Cogan was one, too, for the matter of that in 1774).

Spilsbury may have hated Hawes for some private reason, and Johnson may have looked down on Hawes as upon a mere apothecary in 1773. Cogan's translation was probably at the root of the quarrel. Time with its love of shocking revelations may perhaps show that Johnson lifted Cogan's work! Cogan was certainly a good Dutch scholar, and so fond of Holland that he lived there in the great house of the Zulesteins for some years. He certainly worked very hard with Hawes to found the Royal Humane Society. Both surely deserve halos if only for their powers as organisers.—I am, Sir, yours faithfully,

May 7th, 1914. THE WRITER OF THE ANNOTATION.

THE NATIONAL INSURANCE ACT.

SANATORIUM BENEFIT IN MIDDLESEX.

IN Middlesex the county council has signified its willingness to provide treatment for all persons suffering from tuberculosis, whether insured or uninsured. The Insurance Committee, therefore, has entered into an agreement to hand over to the county council all moneys in the sanatorium fund after payment for domiciliary treatment, drugs, medical extras, and administrative expenses. It is estimated, however, that the available balance will by no means suffice to meet the cost to which the county council will be put in respect of tuberculous insured persons, but will, in fact, only maintain 100 out of 250 beds in institutions required for insured persons. As a member of the Insurance Committee put it at a recent meeting, of 250 persons who have paid by their insurance contributions for institutional treatment 150 will be in the position of having to receive treatment at the cost of the rates, the insurance fund being inadequate. Not unnaturally, longing eyes were cast upon the domiciliary 6*d.* in the hope of making up the deficit, and a proposal was actually made by a member of the committee to reduce the amount set aside for domiciliary treatment and to increase to that extent the contribution towards the expenses of the county council. However, the suggestion was not persisted in and the agreement with the council was ratified. The length of the agreement was fixed at 60 years in order to make it coterminous with the period for which the council has arranged to raise a loan for capital expenditure. Nevertheless the hope was expressed that long before 60 years had elapsed tuberculosis would be as unimportant as some of the zymotic diseases are now. The county council agrees to place 60 beds in sanatoriums and 40 in hospitals at the disposal of the Insurance Committee. On April 29th 156

insured persons were under treatment in institutions and there was a waiting list of 148, which would have been larger but for the fact that, owing to the hopelessness of getting institutional treatment in a reasonable time, patients who should be dealt with in that way were receiving other forms of treatment as a temporary expedient.

BIRMINGHAM INSURANCE COMMITTEE.

The Birmingham Insurance Committee, in adopting the report of their Sanatorium Subcommittee, had laid before them a letter which had been sent to the medical men upon their panel urging the necessity for early application for sanatorium treatment on the part of insured persons suffering from tuberculosis. The letter had been sent in the hope that the medical men would use their influence to induce patients to seek sanatorium treatment at the earliest possible moment. The same committee, in adopting the report of their Medical Service Subcommittee, had before them the case of a medical practitioner who had been previously censured for acting negligently in not properly examining a patient. He was now reported to have informed a patient that if not satisfied he could go and be examined at the tuberculosis institute, and in giving him a prescription to have instructed him to take it to a druggist whom he named. The committee expressed strong disapproval of the practice of sending a patient to a particular druggist, and in recommending censure of the medical man intimated that a more serious view would have been taken if the case had not arisen before their previous censure had been passed upon the practitioner involved. In another case the medical man complained of was reported as having acted negligently in persistently refusing to attend a patient on several occasions, in not providing proper treatment, and in issuing a certificate when he had not seen the patient for seven days. It was recommended that representations should be made to the Commissioners with a view to the removal of this practitioner's name from the panel.

VOLUNTARY HOSPITALS AND THE INSURANCE ACT.

At the dinner of supporters of the Miller General Hospital for South-East London, held under the chairmanship of Sir Edward Coates, M.P., a deficit of £2665 for the past financial year was referred to, and the needs of the hospital for building and other purposes were laid before those present. The chairman described hospitals in general as going through a very serious crisis, due in part, at any rate, to the Insurance Act, which had created an excuse for some people to withdraw their subscriptions. He expressed anxiety lest the voluntary system might be receiving a check, and deprecated the possible superseding of voluntary hospitals by State-aided institutions, describing the words "supported by voluntary contributions" as a national sky-sign of which the people in this country were justly proud.

A LEADING FRIENDLY SOCIETY AND THE INSURANCE ACT.

The Manchester Unity of Oddfellows, which bases its financial returns upon a membership of 771,055, of whom 152,198 are women, does not appear to have serious reason to fear insolvency through any alleged failure of the medical profession to detect malingering or properly to treat disease. For the first nine months under the Act the Manchester Unity paid in sickness benefit to men £196,628, its probable liability having been actuarially estimated at £213,196. With women members it has fared somewhat differently, the estimates for sickness benefit having been exceeded by £6011, the actual payments being £48,303 and the actuarial estimate £42,292. Maternity benefit is not included in the above figures. The society paid to men in respect of this benefit £46,711, the estimate for the same period being £62,350, and to insured women £905, as against £1237. It will be seen that whatever they may have done in the matter of other sickness women have kept well within the expectation formed of them with regard to maternity so far as the Manchester Unity is concerned.

EAST RIDING INSURANCE COMMITTEE.

At a meeting of the East Riding Insurance Committee at Beverley a discussion took place upon an allegation made that some medical men upon the panel were obliging women patients to pay over to them the whole of their maternity benefit for attendance. Protest was made against this, but it was apparently not established that the practice if it existed was in any way general, a member pointing out that Approved Societies generally had maternity cases looked after by a lady who would see that the woman was receiving proper attention. He had never in his experience heard of a medical man "dunning" patients in the manner described. Various opinions were expressed, and it was suggested that publicity having been given to the matter if any medical man were really acting as alleged he would be warned. The matter then dropped. Among other subjects mentioned was the loss of their cheques by three of the medical men on the panel, one being for £47, which the owner knew he had unintentionally thrown into the fire. Fresh cheques were ordered to be drawn.

Medical News.

UNIVERSITY OF CAMBRIDGE.—The Linacre lecture will be delivered on May 25th by Sir T. Clifford Allbutt, Regius professor of physic, on Public Medicine and Hospitals in Ancient Greece and Rome.

The following medical degrees have been conferred:—

M.D.—E. G. Fearnsides, Trinity Hall.
M.B., B.C.—R. Sherman, Caius, and M. T. Petty, Downing.
M.B.—R. S. Morshed, Trinity.

BRITISH MEDICAL TEMPERANCE ASSOCIATION.—The annual meeting of this association will be held on Monday, May 25th, at 5.30 P.M. (tea and coffee at 5.15 P.M.), at 124, Harley-street, W. The President, Professor G. Sims Woodhead, M.D., will take the chair.

MEDICAL INSPECTORSHIPS UNDER THE BOARD OF CONTROL.—The Secretary of State has approved of Robert Welsh Branthwaite, M.D., Albert Edward Evans, M.B., and Samuel Ernest Gill, M.D., for appointments as inspectors under the Board of Control, the second named to fill the post of Welsh-speaking inspector.

SOCIETY OF TROPICAL MEDICINE AND HYGIENE.—At a meeting of this society at 11, Chandos-street, Cavendish-square, London, W., to-day (Friday, May 15th), at 8.30 P.M., a paper on Some Surgical Aspects of Tropical Diseases will be read by Mr. James Cantlie; Dr. G. C. Low will show a specimen of Dr. A. Castellani's new parasite the "Entoplasma"; and Dr. C. M. Wenyon will show specimens of Oriental Sore in Dogs from Dr. A. R. Neligan, of Teheran.

THE annual banquet of the Coroners Society of England and Wales will be held at the Holborn Restaurant, London, on Thursday, June 18th, at 6.45 for 7 o'clock.

THE annual meeting of the East End Mothers' Lying-in Home will be held at 8, Little College-street, Westminster, S.W., on Wednesday, May 20th, at 4 o'clock.

MUNICIPAL HONOUR FOR A MEDICAL MAN.—At the last meeting of the Cheltenham town council Dr. Richard Davies, a former councillor, was unanimously elected an alderman.

PHARMACEUTICAL SOCIETY.—Dr. Andrew Balfour, director of the Wellcome Bureau of Scientific Research, and Mr. J. R. C. Stephens, medical missionary, Nigeria, have been elected corresponding members of the Pharmaceutical Society.

ROYAL HOSPITAL FOR DISEASES OF THE CHEST: CENTENARY FESTIVAL DINNER.—A dinner to celebrate the hundredth anniversary of the foundation of the Royal Hospital for Diseases of the Chest, City-road, was held at the Savoy Hotel, London, W.C., on Friday, May 8th, Dr. W. H. White in the chair. Those present included Sir Richard Douglas Powell, Sir A. Pearce Gould, Sir StClair Thomson, Professor Sims Woodhead, Dr. Samuel West, Dr. Mitchell Bruce, Dr. Hector G. Mackenzie, Dr. S. H. Habershon, Dr. J. E. Squire, Dr. F. T. Smith, Dr. Glover Lyon, Dr. F. J. Wethered, Dr. R. A. Young, Mr. W. T. Lister, Dr. Arthur Davies, Dr. T. D. Lister, Dr. James Calvert, Dr. J. H. Drysdale, Dr. P. Horton-Smith Hartley, Dr. R. Murray Leslie, and the Dean, Dr. Barty King. After the chairman had proposed the toast of "The King," Sir Richard Douglas Powell, in proposing the toast of "Prosperity to the Hospital," heartily congratulated it on having attained its hundredth birthday, and on having preserved all through that time its vigour and beneficence. He referred to the vast amount of research and useful work which had been carried out in the hospital, and believed that it was destined to a greater usefulness and to spread its fruits over a greater area. He contrasted the treatment of consumptive patients in the Victorian era with that of to-day. He then described a recent visit paid by him to the hospital, and spoke of the great improvements which had been carried out in the out-patient department, referring to the new equipment and installations. He was specially struck with the new department for the prevention of consumption, which would be of the greatest possible value in obtaining accurate and valuable statistical records of the etiology of tuberculosis, and with the electro-cardiograph and other instruments for scientific investigation of heart diseases. Dr. Arthur Davies, in reply, gave a short account of the history of the hospital. It was founded in 1814 by the Duke of Kent, the father of Queen Victoria. It was first situated in Union-street, Bishopsgate, and in 1847 it was removed to Dean-street, Finsbury-square, and in 1849 to its present site. In 1863 it was rebuilt. In 1829 one of the physicians, Dr. Babington, invented the glottiscope, which was the forerunner of the laryngoscope. In 1862 Dr. Thomas Davies, grandfather of the present senior physician, introduced the Laennec stethoscope into England; he also originated the practice of exploratory puncture in the diagnosis of pleural effusions. In 1848 Queen Victoria accepted the office of patron to the hospital, which was henceforth called the Royal Infirmary for Asthma and Consumption. In 1867 the title was changed to that of the Royal Hospital for Diseases of the Chest. Professor Sims Woodhead, in proposing the toast of "The Medical School," referred to the fact that clinical lectures were delivered in the hospital as far back as 1823. The history of the hospital showed that it was staffed in its early years, not only by men of high ideals, but also by strong, practical, and energetic men who were capable of putting those ideals into practice. Dr. Matthew Baillie, nephew of John and William Hunter, who died of consumption in 1823, was one of the first to show the importance "of a careful observation of the dead, in order to discover what had been happening among the living." Nowadays special personal training in the treatment of tuberculous cases was necessary. Professor Woodhead maintained that the medical officer of health could never take the place of the clinician and investigator, and expressed the hope that if laboratories were to be founded and developed these laboratories must be in close connexion with the clinical material, otherwise there was a danger of public laboratories becoming mere centres for the routine collection of statistics. Dr. Barty King, in response, mentioned that two years ago it was decided by the hospital staff to establish a medical school, along with a school for the training of tuberculosis nurses. At its foundation the medical school had to face exceptional difficulties, more especially in connexion with the passing of the National Health Insurance Act; but in spite of these difficulties it had met with an immediate and encouraging success. He referred to the necessity for the training of tuberculosis officers for the tuberculosis departments and sanatoriums, for which there was at present no adequate provision. The general and special hospitals should actively combine in safeguarding their interests in connexion with the new movements, and especially in relation to tuberculosis. The Dean then paid special tribute to the work as carried on at the Brompton Hospital, and also alluded to the high value placed by German physicians on the chest hospitals in London as essential factors in any campaign against tuberculosis. In connexion with the hospital, he mentioned that during the last two years the whole of the out-patient department had been rebuilt, and that tuberculosis and cardiological departments and pathological laboratories had been established and equipped. The council was about to appoint a director of the pathological laboratories in order that, in addition to the ordinary routine work of the hospital, thorough research work might also be carried out. The council had decided to make a special appeal for £60,000 for the endowment of research and the rebuilding of the hospital. Sir Alfred Pearce Gould proposed the health of "The Guests," and Sir StClair Thomson and Dr. Mitchell Bruce replied to the toast; and Dr. Samuel West proposed the toast of "The Chairman," which was replied to by Dr. W. H. White.

ROYAL MEDICAL BENEVOLENT FUND.—At the last meeting of the committee 28 cases were considered and grants amounting to £270 voted to 23 of the applicants. The following is a summary of the cases relieved:—

Widow, aged 53, of L.F.P.S. Glasg., who practised at Winchcombe and Bilbao. Since husband's death has tried to earn a living by taking in boarders, but owing to heavy expenses in connexion with the illness of son, recently deceased, and dearth of boarders is in arrears with rent. Granted £10.—Widow, aged 54, of L.R.C.P. Edin., who practised at Blackburn. Since husband's death has been able to earn a few shillings weekly by nursing. One daughter learning a trade. Recently suffering from ill-health and unable to obtain suitable work. Granted £12 in 12 instalments.—Widow, aged 65, of L.F.P.S. Glasg., who practised at Rothesay and other places. Has a small pension from the Elder Fund, and earns a few pounds annually by letting rooms. Suffering recently from chronic rheumatism and sciatica and unable to attend to lodgers. Granted £12 in 12 instalments.—Widow, aged 58, of L.F.P.S. Glasg., who practised at Glasgow. Owing to ill-health and illness of daughter unable to work. Small allowance from brothers and sister and small pensions from the Elder Fund and the Skinners Company. Granted £10 in one instalment.—Daughter, aged 48, of M.R.C.S. Eng., who practised at Gillingham, Kent. Has recently been working as a general servant, but in consequence of ill-health and overwork requires a rest. A letter for a convalescent home procured for her, and a sum of £5 granted, to be given at the discretion of a local charity.—Widow, aged 57, of M.D. Durh., who practised at Peckham Rye. Only income the proceeds of the sale of late husband's practice, which is being carried over several years. Paralysed and nearly blind and quite unable to move without help. Granted £12 in 12 instalments.—M.D., of St. Andrews, aged 76. Practised at London, Norfolk, and abroad. Obtains very occasionally locum work. Lost small capital in struggle to obtain work and ill health. Granted £18 in 12 instalments.—Widow, aged 62, of M.R.C.S. Eng., who practised at Streatham Hill. Since husband's death income only £24 per annum, and owing to husband's long illness practice entirely lost and of no financial value. Granted £12 in 12 instalments.—Widow, aged 76, of L.R.C.P. Edin., who practised in Ireland. Has with the assistance of daughters tried to run a nursing home in South-West London, but owing to lack of patients has got behind with rent. Income £30 per annum from Epsom College. Relieved once, £10. Granted £10, to be paid through the Guild visitor.—Daughter, aged 52, of M.R.C.S. Eng., who practised at Newport, Mon. Receives occasional help from friends. Is almost blind and health very bad. Relieved three times, £36. Granted £12 in 12 instalments.—Daughter, aged 70, of M.R.C.S. Eng., who practised at Limehouse. Earns a little by keeping poultry and other general work, and receives a little help from nephew. Health very uncertain. Relieved once, £10. Granted £12 in 12 instalments, and recommended to apply for the old age pension.—Widow, aged 78, of M.D. Glasg., who practised in Ireland and other places. Lives in own house, and lets off two flats which when occupied enables her to manage. In consequence of one flat having been empty become short of money to pay taxes and rates. The case referred to the Guild. Relieved seven times, £41. Granted £5.—Widow, aged 57, of M.R.C.S. Eng., who practised at Maida Vale. No income, and suffers from chronic rheumatism and weak heart. Relieved 10 times, £104. Granted £12 in 12 instalments.—Daughter, aged 60, of M.R.C.S. Eng., who practised at Nevin. Earns a little by letting rooms, and has to keep her sister, who is in very

delicate health. Relieved eight times, £96. Granted £12 in 12 instalments.—Widow, aged 50, of M.B. Aberd., who practised in Warwickshire and New South Wales. Receives a little help from her sister and son, but is suffering from general illness and quite unable to work. Relieved six times, £66. Granted £12 in 12 instalments. —Daughter, aged 67, of M.R.C.S. Eng., who practised at Cranbrook, Kent. Health bad and quite unable to look after herself. Has an annuity of £16 9s. 8d. and a little help from the Kent Benevolent Society. Relieved seven times, £84. Granted £12 in 12 instalments.—Daughter, aged 63, of L.S.A. Lond., who practised at Kilburn and Regent's Park. Health very bad and has to keep a sister. Recently lost a friend who paid the rent and assisted otherwise. Relieved five times, £60. Granted £12 in 12 instalments.—Widow, aged 44, of M.B., C.M. Edin., who practised at Ballindalloch. At husband's death was left with four young children, the eldest of whom is now 15 years old. Has tried to earn a living by taking in boarders, but owing to the recent illness of self and children has been unable to properly attend to this. Receives £15 per year from the Flemming Fund. Relieved three times, £30. Granted £10 in two instalments.—Widow, aged 44, of L.S.A. Lond., who practised in London. Has been trying to make a living by letting rooms, but has not been successful, and owes rent. Three children, the youngest of whom is six years old. Relieved twice, £12. Voted £3 as a special grant.—M.D., of Aberdeen, aged 61, practised at Walsall and other places. Suffering from lateral sclerosis and paralysis since 1881. Income from various sources £70 per annum. Three children, the youngest 3 years and the oldest 15 years. Relieved six times, £53. Granted £12 in 12 instalments.—Orphan, aged 68, of M.R.C.S. Eng., who practised in Harley-street, W. Too old to obtain employment. Receives pension from another society of £25 and some help from the Guild. Relieved twice, £24. Granted £12 in 12 instalments.—Widow, aged 69, of M.R.C.S. Eng., who practised in Stratford, E. Has pension of £30 from Epsom College, but health very bad. Relieved four times, £39. Granted £10 in two instalments.—Widow, aged 71, of L.R.C.P. Edin., who practised at Sparkbrook, Birmingham. Only income £16 per annum and a little help from children. Has tried to augment this by taking in boarders, but owing to age and bad health unable to make this pay, and the rent and taxes are in arrears. Relieved twice, £20. Granted £10.

Contributions may be sent to the honorary treasurer, Dr. Samuel West, 11, Chandos-street, Cavendish-square, London, W.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

Asylum Officers (Superannuation) Bill.

Lord WOLMER has introduced in the House of Commons a Bill "to limit the hours of employment of officers and servants in asylums and to amend the Asylum Officers Superannuation Act, 1909." It was read a first time.

Naval Medical Compassionate Fund Bill.

Mr. G. LAMBERT, the Civil Lord of the Admiralty, on Tuesday, May 12th, introduced a Bill "to make further and better provision with regard to the Naval Medical Compassionate Fund." It was read a first time.

HOUSE OF LORDS.

THURSDAY, MAY 7TH.

Midwives (Scotland) Bill.

THE HOUSE went into Committee (for the second time) on the Midwives (Scotland) Bill.

Lord BALFOUR of BURLEIGH, in moving the adoption of a series of amendments *en bloc*, explained that with one exception they were of a drafting character. As the Bill stood there was a provision that on the formation of a Central Midwives Board in Scotland three members were to be appointed by the President of the Council, and two of these when available should be certified midwives practising in Scotland under the terms of the Bill. Of course, these midwives were not available now, and it was uncertain when they would be. Therefore, after conference with the Scottish Office and the Privy Council, it had been suggested that he should make the Privy Council responsible for the formation of the Board for a period of years. That would get over the difficulty. He also proposed to insert specific provisions that the new Board should elect a chairman from among its own members and that the sittings should take place in Edinburgh.

All the amendments were agreed to and the Bill was reported to the House.

HOUSE OF COMMONS.

WEDNESDAY, MAY 6TH.

Infants Milk Bill.

Mr. DOUGLAS HALL moved for leave to bring in a Bill "to ensure the supply of milk to certain persons." He said that the aim of the Bill was to ensure the sale of pure milk to certain mothers of infant children at a price which they could afford to pay. The measure would increase the supply of pure milk from dairy farmers, and it would cost the community but a trifling sum, if anything. It was proposed to make use of the local authorities and the medical officers of health as agents for groups of mothers in districts to enable them to obtain milk at a price which they could afford to pay. In the event of any jobbery or corruption it was proposed that the Local Government Board should fix the price of the milk to be thus sold. It was stipulated that it was to be pure. The best definition was that contained in the Sale of Milk Regulations Act, 1901, and it was proposed that this definition should be altered in future if there was a statutory definition better defining what pure milk was. Having referred to the insufficiency, or even the entire lack, of nourishing milk in the budget of the very poor, the honourable Member proceeded to say that his Bill laid down that the local authority, through their officer of health, should provide milk to certain mothers in their district belonging to the poorer classes. The Bill defined these mothers as mothers who came under the maternity benefit of the National Insurance Act. The time during which they could obtain the milk was to be limited, say, to three months after the birth of the child. Even in the country districts it was difficult for mothers to obtain milk. In many districts farmers sent the whole to the large towns for sale, and it was almost impossible to get milk in those districts. If the Bill passed, the local medical officer could make arrangements with some dairy farmer and make it worth his while to keep back sufficient to be sold to these mothers. If there was a slight loss on the purchase—he did not believe that there would be—it would be borne by the local authority. He recommended the Bill to the House as a short, simple, practical, and inexpensive contribution to the great question of public health and the physical fitness of the nation.

Leave having been granted, the honourable Member brought in the Bill. He has the support of Lord HENRY CAVENDISH-BENTINCK, Mr. CHARLES BATHURST, Mr. ASTOR, Mr. GRANT, and Mr. JOYNSON-HICKS.

THURSDAY, MAY 7TH.

Domiciliary Treatment in Middlesex.

Mr. WORTHINGTON EVANS asked the honourable Member for St. George's-in-the-East as representing the Insurance Commissioners whether he was aware that the Middlesex Insurance Committee was refusing to carry out its tuberculosis officer's recommendation that no insured person should receive domiciliary treatment with extras unless the insured person had chosen a panel doctor; and whether, in a case where an insured person had provided and paid for his own medical man, who was willing to act in consultation with the tuberculosis officer, it was the intention of the Government that the insured person was to forfeit the extras under the sanatorium benefit which the tuberculosis officer recommended.—Mr. WEDGWOOD BENN said in reply: The recommendation of an Insurance Committee for sanatorium benefit and the nature of the treatment provided thereunder is, as the honourable Member is aware, a matter for the discretion of the committee. My right honourable friend is informed, however, that no such advice as the honourable Member suggests has been given by the tuberculosis officer referred to.

MONDAY, MAY 11TH.

Payment of Panel Practitioners.

Mr. FELL asked the honourable Member for St. George's-in-the-East why some better arrangement was not made for the payment of the panel doctors under the National Insurance Act; and would he say why money due was paid by driblets and was nearly always in arrear for periods of weeks, which treatment of the doctors did not conduce to efficient and satisfactory work by them.—Mr. WEDGWOOD BENN replied: As payments to doctors during the year are advances on account of remuneration which could not be determined till the end of the year, a margin must necessarily be reserved for the final settlement. It will, however, be possible for Insurance Committees in many cases to reduce the margin reserved when the accounts for last year are completed and more precise information is accordingly forthcoming as to the actual sums available.

TUESDAY, MAY 12TH.

The Largest Panel List.

Replying to Sir J. D. REES and Mr. F. WHYTE, Mr. WEDGWOOD BENN said: The maximum number of insured persons on the list of any single medical man on the panel in Great Britain is 5455.

Mr. F. WHYTE: Does the honourable gentleman mean a single medical man or one having an assistant?—Mr. WEDGWOOD BENN: He is the only medical man on the panel in respect of those persons, but as a matter of fact he has two assistants.

Treatment by Herbalist Practitioners.

Mr. BRASSEY asked the honourable Member for St. George's-in-the-East whether his attention had been called to the action of the Southport and other Local Insurance Committees in refusing to allow insured persons to make arrangements

for medical treatment by herbalist practitioners notwithstanding that the Approved Societies to which the insured persons belonged were paying sickness benefit on the certificates of such practitioners; and what action he proposed to take in the matter.—Mr. WEDGWOOD BENN said in reply: As I have previously stated, the question of granting or refusing permission to insured persons to make their own arrangements under Section 15 (3) of the National Insurance Act, 1911, is a matter for the discretion of Insurance Committees, and my right honourable friend cannot interfere in the exercise of that discretion.

Milk and Dairies Bill.

Mr. H. SAMUEL, in moving for leave to present a Bill "to make better provision with respect to the sale of milk and the regulation of dairies," said that the general law in this country in relation to milk had regard chiefly to the prevention of fraud and to the checking of deliberate adulteration. It had so far had very little regard to the more important matter of the health of the people. Experts and authorities had reported that tuberculosis was undoubtedly spread, particularly amongst children, by the consumption of tuberculous milk. The Royal Commission on Tuberculosis and the Departmental Committee known as the Astor Committee reported in this sense. There were in England and Wales about 53,000 cases of tuberculosis every year, and no fewer than a fourth of them were non-pulmonary tuberculosis amongst children, and a not inconsiderable proportion of these was due to milk. Although infinite care was taken in this country as to the water-supply, yet the safeguarding of the milk-supply, which was of equal importance, was little regarded by the law. About a hundred local authorities had now secured powers to protect their population from contaminated milk, but the result was a multiplication of inspection in rural districts, much to the disgust of the farmers. It had been recognised in all quarters of the House that this was a matter which demanded legislation. The subject of milk, however, which ought to be a peaceful topic—the very name of it summoned up ideas of what was meek and mild—had been a matter of hot and almost burning controversy. There were great interests concerned. The public health authorities, especially of the towns, were eager to safeguard the health of the population under their care, and they were unwilling to surrender the powers which had been conferred upon them by local Acts, unless they could be sure that a really efficient system of protection and control would be established in the rural districts. The milk-selling industry was a numerous and highly organised body which was conducting a trade of inestimable value to the community. They were anxious to see that the purity of the milk-supply was secured, but at the same time they were, not unnaturally, anxious to secure that they should not in the conduct of their business be unnecessarily harassed by regulations and especially they were anxious to secure that the members of the milk-selling trade should not be punished for faults which they had not themselves committed because they were the parties most easy to reach. Thirdly, there was the great agricultural industry which was equally eager to observe any practical measures for safeguarding the health of the population and to maintain the reputation of the milk industry, but the members of that industry did very strongly object to the present system of multiple inspection, and they were timid lest they should be exposed to harassing and impracticable regulations. They were especially timid lest their industry should be put to great expense by the adoption of measures pressed forward by idealists. He had been in communication with the representatives of all those interested. He found that each of them was anxious to see legislation, and to have the whole matter put upon a more satisfactory footing. He had endeavoured to frame a Bill which would meet with the general assent of the various authorities concerned. The Bill was of a detailed character, and it was not possible for him within the short time at his disposal to describe the somewhat numerous and certainly very detailed clauses. It would be enough to say now that it proposed to make Regulations in order to prevent the supply of contaminated and dirty milk, and these Regulations should be made by the Local Government Board with the concurrence of the Board of Agriculture, who would be asked in this matter to act in coöperation with the Local Government Board. These Regulations would be laid before Parliament and they would not become operative if either House passed an address against them. He was thus taking every step to prevent unreasonable Regulations. The Bill proposed to provide means for tracing diseased milk back to its source and for stopping the source of such milk. Where there was adulteration the Bill enabled improved procedure to be adopted to bring the offence home to the guilty persons. It proposed also to get rid of multiple inspection and to apply similar regulations to foreign milk imported into our towns. He should make it clear that the Board of Agriculture proposed to compensate farmers for the cows that had to be slaughtered for tuberculosis on a somewhat more generous scale than hitherto. The Public Health grants which were proposed this year would provide for paying not only half the salaries of medical officers, but those of veterinary surgeons and milk inspectors. Therefore half of these expenses would be paid out of national funds. He should most carefully consider any amendments or suggestions which might be made by persons interested in the measure with a view to meeting all the interests concerned. For five years Bills on this subject had been before Parliament. He hoped that this session Parliament would be ready to deal with a subject which it was admitted on all hands demanded the attention of Parliament.

Leave having been granted, Mr. SAMUEL brought in the Bill, which was read a first time.

BOOKS, ETC., RECEIVED.

CAMBRIDGE UNIVERSITY PRESS, London and Cambridge.
The Bacteriological Examination of Water. (Cambridge Public Health Series.) By W. G. Savage, B.Sc., M.D. Lond., D.P.H. Price 7s. 6d. net.
Isolation Hospitals. (Cambridge Public Health Series.) By H. Franklin Parsons, M.D. Lond., D.P.H. Camb., formerly First Assistant Medical Officer of the Local Government Board. Price 12s. 6d. net.

COLLINGRIDGE, W. H. AND L., Aldersgate-street, London
The City of London Year Book, 1914. Price 5s. net.

GEORGE ROBERTSON AND COMPANY, Melbourne, Sydney, Adelaide, Brisbane, and London.
Australasian Fossils: A Student's Manual of Palæontology. By Frederick Chapman, Paleontologist to the National Museum, Melbourne. With an Introduction by Professor E. W. Skeats, D.Sc., F.G.S.

HEINEMANN, WILLIAM, London.
Appendicitis: Its History, Anatomy, Clinical Ætiology, Pathology, Symptomatology, Diagnosis, Prognosis, Treatment, Technic of Operation, Complications, and Sequels. By John B. Deaver, M.D., Sc.D., LL.D., Professor of the Practice of Surgery, University of Pennsylvania. Fourth edition, thoroughly revised. Price 17s. 6d. net.

KING, P. S., AND SON, London.
Building By-Laws in Rural Districts. By Sir William Chance, Bart., M.A. Price 1s. 6d. net.

LEWIS, H. K., London.
Lectures on Dietetics. By Max Einhorn, Professor of Medicine at the New York Post-Graduate Medical School and Hospital. Price 4s. net.

SAUNDERS (W. B.) COMPANY, London and Philadelphia.
A Text-book of the Practice of Medicine. By Jas. M. Anders, M.D., Professor of the Theory and Practice of Medicine and of Clinical Medicine, Medico-Chirurgical College, Philadelphia. Eleventh edition, fully illustrated. Price 24s. net.
Pathologic Histology. By Frank B. Mallory, M.D., Associate Professor of Pathology at Harvard Medical School. With 683 original illustrations, 124 in colours. Price 24s. net.
Diagnostic Symptoms in Nervous Diseases. By Edward L. Hunt, M.D., Instructor in Neurology and Assistant Chief of Clinic, College of Physicians and Surgeons, New York City. Illustrated. Price 6s. 6d. net.
Medical Gynecology. By S. Wyllis Bandler, M.D., Adjunct Professor of Diseases of Women, New York Post-Graduate Medical School and Hospital. Third edition, with 150 original illustrations. Price 21s. net.
Biology, General and Medical. By Joseph B. McFarland, M.D., Professor of Bacteriology and Pathology, Medico-Chirurgical College, Philadelphia. Second edition. Price 7s. 6d. net.
The Practice of Pediatrics. By Chas. Gilmore Kerley, M.D., Professor of Diseases of Children, New York Polyclinic Medical School and Hospital. Illustrated. Price 25s. net.
Development and Anatomy of the Nasal Accessory Sinuses in Man. By Warren B. Davis, M.D., Corinna Borden Keen Research Fellow of the Jefferson Medical College, Philadelphia. With 57 original illustrations. Price 15s. net.

Appointments.

Successful applicants for vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.

BAKER, A. DE WINTER, M.R.C.S., L.R.C.P. Lond., has been appointed Honorary Anæsthetist to the Putney Hospital (Chester Bequest).
BRANTHWAITE, R. W., M.D. Brux., L.R.C.P. Lond., M.R.C.S., has been appointed an Inspector under the Board of Control (Mental Deficiency Act).
DOYLE, J. S. M.B., B.Ch. R.U.I., has been appointed Certifying Surgeon under the Factory and Workshop Acts for the Enniscorthy District of the county of Wexford.
EVANS, A. E., M.B., B.S. Lond., has been appointed an Inspector under the Board of Control (Mental Deficiency Act).
FELDMAN, W. M., M.B., B.S. Lond., has been appointed Assistant Physician to the Infants Hospital, Vincent-square, Westminster.
GILL, S. E., M.D. Lond., has been appointed an Inspector under the Board of Control (Mental Deficiency Act).
GREEVES, R. AFFLECK, M.B. Lond., B.S., F.R.C.S. Eng., has been appointed Assistant Ophthalmic Surgeon to the Middlesex Hospital.

HALL, C. H., M.D. Glasg., has been appointed Certifying Surgeon under the Factory and Workshop Acts for the Watford District of the county of Hertford

HAWORTH, J. K. J., M.B., B.S. Durh, has been appointed Resident Medical Officer at the Royal Victoria Infirmary, Newcastle-on-Tyne.

HUNTER, J. H., M.B., Ch.B. St. And., has been appointed Assistant Tuberculosis Officer to the Dundee Town Council.

JOHNSTON, G. J. WALDRON, M.D., has been appointed Medical Inspector of Seamen for the Port and District of Fleetwood.

LODWIDGE, W. C., M.R.C.S., L.R.C.P. Lond., has been appointed Certifying Surgeon under the Factory and Workshop Acts for the Langport District of the county of Somerset.

MALLESON, H. C., L.R.C.P., M.R.C.S., L.D.S. R.C.S., has been appointed Assistant Dental Surgeon to Guy's Hospital.

PARSONS, ERNEST, L.D.S. R.C.S., has been appointed Consulting Dental Surgeon to the Metropolitan Hospital.

TARBET, P. R., M.R.C.S., L.R.C.P. Lond., has been appointed Certifying Surgeon under the Factory and Workshop Acts for the Llanwrtyd Wells District of the county of Brecknock.

WEBBER, WILLIAM WOOLMINGTON, L.R.C.P. Edin., M.R.C.S., has been appointed Medical Officer and Public Vaccinator for the Misterton District by the Chard (Somerset) Board of Guardians.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BARNSLEY, BECKETT HOSPITAL.—Second House Surgeon, unmarried. Salary £160 per annum, with apartments, board, and laundry.

BARROW-IN-FURNESS, NORTH LONSDALE HOSPITAL.—House Surgeon. Salary £120 per annum, with residence, board, and laundry.

BEDFORD COUNTY HOSPITAL.—Assistant House Surgeon. Salary £80 per annum, with board, lodging, and laundry.

BEXLEY, KENT, LONDON COUNTY ASYLUM.—Junior Assistant (Sixth) Medical Officer, unmarried. Salary £200 per annum, with board, apartments, and washing.

BIRMINGHAM AND MIDLAND HOSPITAL FOR SKIN AND URINARY DISEASES.—Clinical Assistant for three months. Salary at rate of 52 guineas per annum. Also Clinical Assistant to Electrical Department for six months. Salary at rate of 52 guineas per annum.

BIRMINGHAM CITY EDUCATION COMMITTEE.—Assistant School Medical Officer. Salary £300 per annum.

BIRMINGHAM CITY HOSPITAL, Lodge-road.—Assistant Resident Medical Officer. Salary £160 per annum, with board, residence, &c.

BIRMINGHAM GENERAL DISPENSARY.—Resident Surgeon. Salary £5 5s. per week, with apartments. Also Resident Medical Officer, unmarried. Salary £220 per annum, with apartments, fire, light, and attendance.

BOLTON INFIRMARY AND DISPENSARY.—Third House Surgeon. Salary £90 per annum, with apartments, board, and attendance.

BOOTLE BOROUGH HOSPITAL.—Junior House Surgeon. Salary £80 per annum, with residence, board, and laundry.

BRADFORD CHILDREN'S HOSPITAL.—House Surgeon (Male or Female). Salary £120 per annum, with board, residence, and laundry.

BRADFORD ROYAL INFIRMARY.—Two House Surgeons, unmarried. Salary £100 per annum, with board, residence, and washing.

BRIGHTON, ROYAL ALEXANDRA HOSPITAL FOR SICK CHILDREN, Dyke-road.—House Surgeon for six months. Salary at rate of £100 per annum, with board, lodging, and washing.

BRIGHTON, ROYAL SUSSEX COUNTY HOSPITAL.—House Physician, unmarried. Salary £100 per annum, with apartments, board, and laundry. Also Assistant House Surgeon, unmarried. Salary £80 per annum, with apartments, board, and laundry.

BRISTOL ROYAL INFIRMARY.—House Surgeon for Throat, Nose, and Ear Department. Salary at rate of £100 per annum, with board, lodging, and laundry.

BURNLEY, VICTORIA HOSPITAL.—Senior Resident Medical Officer. Also Second House Surgeon, each for six months. Salary at rate of £120 and £100 per annum respectively, with residence, board, and washing.

BURSLEM, HAYWOOD HOSPITAL.—Female Resident Medical Officer. Salary £100 per annum, with board, residence, and laundry.

BURY COUNTY BOROUGH.—Clinical Tuberculosis Officer and Assistant to Medical Officer of Health. Salary £500 per annum.

BURY INFIRMARY.—Junior House Surgeon. Salary £100 per annum, with board, residence, and washing.

CAMBRIDGE, ADDENBROOKE'S HOSPITAL.—House Physician. Salary £100 per annum, with board, residence, and laundry.

CANCER HOSPITAL (FREE), Fulham-road, S.W.—Assistant Surgeon.

CARDIFF, KING EDWARD VII.'S HOSPITAL.—House Surgeon for the Ophthalmic and Ear, Nose and Throat Departments. Salary £100 per annum, with board, residence, and laundry.

CHELSEA HOSPITAL FOR WOMEN, Fulham-road, S.W.—Clinical Assistants for three months.

CHESTERFIELD AND NORTH DERBYSHIRE HOSPITAL.—House Physician. Salary £90 per annum, with board, apartments, and laundry.

CHICHESTER, WEST SUSSEX COUNTY ASYLUM.—Locum Tenens Medical Officer, unmarried. Salary 5 guineas a week, with apartments, board allowance and washing.

COLCHESTER, ESSEX COUNTY HOSPITAL.—House Surgeon. Salary £100 per annum, with board, washing, and residence.

DARLINGTON HOSPITAL AND DISPENSARY.—House Surgeon, unmarried. Salary £170 per annum, with board, lodging, and laundry.

DEVON COUNTY ASYLUM.—Assistant Medical Officer. Salary £225 per annum, with quarters, board, and laundry.

DEVONPORT, ROYAL ALBERT HOSPITAL.—House Surgeon, unmarried. Salary £150 per annum, with board and laundry. Also Assistant House Surgeon, unmarried. Salary at rate of £75 per annum, with board and laundry.

DURHAM COUNTY ASYLUM, Winterton, Ferryhill.—Junior Assistant Medical Officer, unmarried. Salary £200 per annum, with board, lodging, and washing.

DURHAM COUNTY COUNCIL.—Assistant School Medical Officer. Salary £350 per annum.

DURHAM COUNTY HOSPITAL.—House Surgeon. Salary £120 per annum, with board and lodging.

ECCLES AND PATRICROFT HOSPITAL.—House Surgeon. Salary £70 per annum, with board, washing, and lodging.

EGYPT, PUBLIC HEALTH DEPARTMENT.—Medical Officer, unmarried. Salary at rate of £600 per annum.

EVELINA HOSPITAL FOR SICK CHILDREN, Southwark, S.E.—House Surgeon. Salary at rate of £75 per annum, with board, residence, and washing.

FLINTSHIRE EDUCATION COMMITTEE.—Assistant Medical Officer. Salary £250 per annum.

GLASGOW MATERNITY AND WOMEN'S HOSPITAL (OBSTETRICAL DEPARTMENT).—Two Outdoor House Surgeons and Outdoor House Surgeon at West-End Branch for three months.

GLASGOW, ROYAL SAMARITAN HOSPITAL FOR WOMEN.—Resident Medical Officer. Salary £25 per annum.

GLASGOW, SCOTTISH WESTERN ASYLUMS' RESEARCH INSTITUTE.—Pathologist as Director. Salary £400 per annum.

GREAT NORTHERN CENTRAL HOSPITAL, Holloway-road, N.—House Physician and House Surgeon for six months. Salary at rate of £40 per annum each, with board, lodging, and laundry. Also Anæsthetist. Salary 10 guineas per annum.

HAMPSTEAD GENERAL AND NORTH-WEST LONDON HOSPITAL.—Casualty Officer at Out-patients' Department, Camden Town. Salary at rate of £70 per annum, with board, residence, and laundry.

HEMEL HEMPSTEAD, WEST HERTS HOSPITAL.—Resident Medical Officer. Salary £120 per annum, with rooms, board, and washing.

HUDDERSFIELD ROYAL INFIRMARY.—Assistant House Surgeon. Salary £80 per annum, with board, residence, and washing.

HULL CITY EDUCATION COMMITTEE.—Male Assistant School Medical Officer and Female Assistant School Medical Officer. Salary £300 per annum each.

KING'S LYNN, WEST NORFOLK AND KING'S LYNN HOSPITAL.—House Surgeon. Salary £120 per annum.

KINGSTON, CANADA. QUEEN'S UNIVERSITY, MEDICAL FACULTY.—Two Assistant Professors. Salary in each case £300 per annum.

LAMBETH PARISH INFIRMARY WORKHOUSES, Brook-street, Kennington-road, S.E.—Sixth Assistant Medical Officer. Salary at rate of £120 per annum, with full residential allowances.

LEEDS GENERAL INFIRMARY.—House Surgeon for six months. Also House Surgeon. Board, residence, and laundry provided in each case. Also Resident Medical Officer for six months at Ida and Robert Arthington Hospitals. Salary £60 per annum, with board, residence, and laundry. Also Assistant Clinical Pathologist. Salary £150 per annum.

LEEDS INDOOR INSTITUTIONS, Beckett-street.—Second and Third Assistant Medical Officers, unmarried. Salary £180 and £160 per annum respectively, with board, washing, rations, and apartments.

LEEDS PUBLIC DISPENSARY, North-street.—Junior Resident Medical Officer. Salary £130 per annum, with board, residence, and laundry.

LEICESTER, NORTH EVINGTON POOR-LAW INFIRMARY.—Resident Medical Superintendent. Salary £400 per annum, with unfurnished house, fuel, light, washing, &c.

LONDON HOSPITAL, Whitechapel, E.—Medical Registrar. Salary £100 per annum. Also Surgical Registrar.

MACCLESFIELD GENERAL INFIRMARY.—House Surgeon. Salary £125 per annum, with residence, board, and laundry.

MAIDSTONE, KENT COUNTY ASYLUM.—Fourth Assistant Medical Officer unmarried. Salary £250 per annum, with quarters, board, attendance washing, &c.

MANCHESTER, MONSALL FEVER HOSPITAL.—Fourth Medical Assistant. Salary £130 per annum, with board, lodging, and washing.

MANCHESTER NORTHERN HOSPITAL FOR WOMEN AND CHILDREN, Park-place, Cheetham Hill-road.—Senior and Junior House Surgeons.

MANCHESTER, ST. MARY'S HOSPITALS FOR WOMEN AND CHILDREN.—House Surgeon. Salary at rate of £50 per annum, with board and residence.

MIDDLESBOROUGH, NORTH ORMESBY HOSPITAL.—Assistant House Surgeon. Salary at rate of £100 per annum first six months and £110 per annum afterwards, with board, apartments, washing, and attendance.

NEWARK-UPON-TRENT HOSPITAL.—Resident Medical Officer, unmarried. Salary £100 per annum, with board, lodging, and laundry.

NEWCASTLE-UPON-TYNE DISPENSARY.—Vacancies on Visiting Medical Staff. Salary £200 per annum.

NEW HOSPITAL FOR WOMEN, Euston-road.—Female House Physician, Two House Surgeons, and Obstetric Assistant, all for six months. Also Clinical Assistant for Out-patient Department, and Assistant Pathologist.

NEW ZEALAND, UNIVERSITY OF OTAGO.—Professor of Anatomy. Salary £300 per annum.

NORFOLK EDUCATION COMMITTEE.—Assistant Medical Officer. Salary £300 per annum.

NOTTINGHAM CITY EDUCATION COMMITTEE.—Senior Medical Inspector of School Children. Salary £400 per annum.

NOTTINGHAM GENERAL HOSPITAL.—Assistant House Physician. Salary £100 per annum, with board, residence, and laundry. Also Locum Tenens for 13 weeks. Salary £4 4s. per week, with board, residence, and laundry.

NOTTS COUNTY COUNCIL.—Assistant Tuberculosis Officer. Salary £300 per annum.

OLDHAM ROYAL INFIRMARY.—Senior House Surgeon. Salary £140 per annum, with residence, board, and laundry.

OXFORDSHIRE EDUCATION COMMITTEE.—School Dentist. Salary £250 per annum.

PADDINGTON GREEN CHILDREN'S HOSPITAL, London, W.—House Physician and House Surgeon for six months. Salary in each case at rate of £80 per annum, with board, residence, and washing.

PORTSMOUTH CORPORATION MENTAL HOSPITAL.—Assistant Medical Officer, unmarried. Salary £250 per annum, with board, apartments, attendance, and washing.

PRINCE OF WALES'S GENERAL HOSPITAL, Tottenham, N.—Senior House Physician and Senior House Surgeon. Salary £75 per annum each. Also Junior House Physician and Junior House Surgeon. Salary £60 per annum each. With residence, board, and laundry. All for six months.

PUBLIC DISPENSARY, 122, Drury-lane, W.C.—Resident Medical Officer, unmarried. Salary £105 per annum, with apartments attendance, coals, and light.

QUEEN'S HOSPITAL FOR CHILDREN, Hackney-road.—House Physician for six months. Salary at rate of £80 per annum, with board, residence, and washing.

ROCHDALE INFIRMARY AND DISPENSARY.—Junior House Surgeon, unmarried. Salary £110 per annum, with board, residence, and laundry.

ROTHERHAM HOSPITAL.—Senior and Junior House Surgeons. Salaries £150 and £100 respectively, with board, lodging, and washing.

ROYAL EYE HOSPITAL, Southwark, S.E.—Junior House Surgeon for six months. Salary £50 per annum, with board and residence. Also Clinical Assistants.

ROYAL HOSPITAL FOR DISEASES OF THE CHEST, City-road, E.C.—Director of the Pathological Department. Salary £400 per annum. Also Medical Registrar. Salary 100 guineas per annum.

ROYAL LONDON OPHTHALMIC HOSPITAL, City-road, E.C.—Honorary Physician.

ROYAL WATERLOO HOSPITAL FOR CHILDREN AND WOMEN, S.E.—Honorary Physician in charge of Out-patients.

ROYAL WESTMINSTER OPHTHALMIC HOSPITAL, King William-street, West Strand, W.C.—Clinical Assistants for six months.

ST. HELENS COUNTY BOROUGH EDUCATION COMMITTEE.—Dentist. Salary £250 per annum.

ST. MARK'S HOSPITAL FOR CANCER, FISTULA, AND OTHER DISEASES OF THE RECTUM, City-road, E.C.—House Surgeon. Salary £80 per annum, with board, lodging, and washing.

ST. MARYLEBONE GENERAL DISPENSARY, 77, Welbeck-street, Cavendish-square, W.—Honorary Surgeon for Throat, Nose, and Ear Department. Also Honorary Medical Radiographer.

ST. MARY'S HOSPITAL, Paddington, W.—Resident Medical Officer for six months. Salary £100 per annum, with board and lodging.

SALFORD ROYAL HOSPITAL.—Junior House Surgeon and Casualty House Surgeon. Salary at rate of £80 per annum each, with board and residence.

SALISBURY INFIRMARY.—Assistant House Surgeon, unmarried. Salary £75 per annum, with apartments, board, lodging, and washing.

SHEFFIELD, JESSOP HOSPITAL FOR WOMEN.—Assistant House Surgeon, unmarried. Salary £80 per annum, with board, residence, and laundry.

SHEFFIELD ROYAL INFIRMARY.—Ophthalmic House Surgeon for six months. Salary £80 per annum, with board and residence.

SHEFFIELD UNION HOSPITAL, Firvale.—Resident Assistant Medical Officer, unmarried. Salary £140 per annum, with apartments, rations, &c.

SHREWSBURY, SALOP INFIRMARY.—House Physician. Salary at rate of £90 per annum, with board and apartments.

SOUTHAMPTON, ROYAL SOUTH HANTS AND SOUTHAMPTON HOSPITAL.—Junior House Surgeon. Salary at rate of £120 per annum, with rooms, board, and washing.

SOUTHWARK UNION INFIRMARY, East Dulwich-grove, S.E.—Second Assistant Medical Officer and Third Assistant Medical Officer. Salary at rate of £170 and £160 per annum respectively, with board, lodging, and washing.

STROUD GENERAL HOSPITAL.—House Surgeon. Salary £120 per annum, with board, lodging, and washing.

SWANSEA EDUCATION COMMITTEE.—Dental Surgeon. Salary £220 per annum.

SWANSEA GENERAL AND EYE HOSPITAL.—Two House Surgeons. Salary £125 per annum, with board, washing, and attendance.

WALSALL AND DISTRICT HOSPITAL.—Senior House Surgeon and Assistant House Surgeon. Salary £150 and £110 per annum respectively, with board, residence, and laundry.

WEST HAM AND EASTERN GENERAL HOSPITAL.—Junior House Physician and Junior House Surgeon. Salary at rate of £75 per annum, with board, residence, and washing.

WEST LONDON HOSPITAL, Hammersmith-road, W.—Second Resident Casualty Officer. Board, lodging, and laundry provided. Also Two Assistant Anæsthetists.

WESTMINSTER HOSPITAL.—Honorary Administrator of Anæsthetics.

WIGAN, ROYAL ALBERT EDWARD INFIRMARY AND DISPENSARY.—Senior House Surgeon. Salary £170 per annum, with board, apartments, and washing. Also Junior House Surgeon. Salary £150 per annum, with board, apartments, and washing.

WOLVERHAMPTON AND MIDLAND COUNTIES EYE INFIRMARY.—House Surgeon. Salary £100 per annum, with apartments, board, and laundry.

YORK, NORTH RIDING ASYLUM, Clifton.—Assistant Medical Officer. Salary £200 per annum, with board, apartments, washing, and attendance.

Births, Marriages, and Deaths.

BIRTHS.

BENTLEY.—On April 28th, at "Haworth," Mitcham, the wife of Harold Bentley, M.R.C.S., L.R.C.P., of a son.

BLAKEWAY.—On May 4th, at Weymouth-street, W., the wife of Harry Blakeway, M.S., F.R.C.S., of a daughter.

MARRIAGES.

SPAIN—YATES.—On May 7th, at St. Andrew's Church, Stamford Hill, N., Harold Gordon Spain, L.D.S. R.C.S. Eng., to Cecile Belle Gladys Yates, youngest daughter of Mrs. J. C. Yates, of Stamford Hill, N.

DEATHS.

AMBROSE.—On May 7th, George Patrick Ambrose, M.D., M.R.C.S., L.R.C.P.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

THE BOY SCOUT MOVEMENT.

Sir Robert Baden-Powell addresses to us an appeal in which he points out that we as a nation spend annually 30 millions in training youths up to the age of 14 in reading, writing, and arithmetic (plus a modicum of physical drill) so that they may make good citizens, and then abandon them at the cross-roads of life to drift. Then we spend 38 millions more to correct the results of their drifting into crime and imprisonment, vice and sickness, poverty and unemployableness. This waste the Scout movement aims to counteract by supplying outside the school walls character training, health development, handicrafts and service for others, and by retaining a hold over the boy after he leaves school during the critical years of life. An endowment of £10,000 a year—say a capital fund of a quarter of a million—would render it possible greatly to extend this work so as to include in its training the mass of boys, even the waste material of the slums. Of this sum £65,000 have already been subscribed, and if there is a reasonable prospect of obtaining the balance by Whitsuntide the further development of the movement can be proceeded with. This is not sought as a charity, but as an insurance by the nation against its present waste of men and money by providing the country in the coming generation with a manly and characterful race. We publish in our correspondence columns this week an eloquent letter upon the same subject from Sir Lauder Brunton, whose advocacy we are sure will meet with a ready response from members of the medical profession.

"MARRIAGES" BETWEEN THE SAME SEX.

A CASE was reported last week of a girl who has been posing as a man for the past ten years in Milwaukee and "marrying" two girl friends. It was the second "marriage," apparently, which caused the secret to be divulged. In THE LANCET of June 23rd, 1900, p. 1814, we published an annotation with the title which stands at the head of this paragraph. Many such remarkable "marriages" have occurred, and not all by any means have been discovered. A few years ago there died a woman who had lived as a married man for 40 years. One interpretation of these episodes leaps to the medical eye, but a more commonsense and probable explanation of them is that the assumption of the male sex means higher wages for one member of a partnership.

"MILLIBARS."

To the Editor of THE LANCET.

SIR,—In answer to your correspondent "Beta," whose letter under the above heading appears in THE LANCET of May 9th (p. 1369), I will endeavour to explain how the "unit" on the new scale for measuring atmospheric pressure has been arrived at.

The centimetre-gramme-second (C.G.S.) system of units is based on the metric system, and gets its name from the primary units of length, mass, and time. This C.G.S. system has long been used universally for electrical and magnetic measurements. It is now being extended to meteorological measurements.

The unit of *pressure* in the C.G.S. system is a dyne per square centimetre. A dyne, or the unit of force, is the force which produces an acceleration of 1 centimetre per second (the unit of acceleration) in a mass of 1 gramme. A megadyne—that is, 1,000,000 dynes—per square centimetre is called a "bar" or "barye," a name which was agreed upon for this unit at the Conference of Physicists in Paris in the year 1900. A "millibar," similarly, is the 1000th part of a "bar," or 0·001 of the C.G.S. unit of pressure.

The accepted normal pressure of the atmosphere, or "standard atmosphere," is that of a column of mercury, 76 centimetres (or, as "Beta" writes it, 760 millimetres) high at the freezing point of water, under the conditions as to gravitation which are to be found in latitude 45° N. or S. For other latitudes a small correction is necessary to allow for the difference of gravity. This pressure of a "standard atmosphere" is 1,013,193 dynes per square centimetre, or approximately 1·013 megadynes per square centimetre.

The *practical unit* of atmospheric pressure in the C.G.S. system is the megadyne per square centimetre, which may be called the "C.G.S. atmosphere." It is equivalent to a pressure of 750·1 millimetres of mercury (29·53 inches) at the freezing point of water in latitude 45°, and is the normal air pressure at 106 metres (348 feet) above sea level.

We have now seen that the *absolute unit* of pressure on the C.G.S. system is the dyne per square centimetre. As this unit is exceedingly small a *practical unit* 1,000,000 times as

great has been suggested. This unit, the megadyne per square centimetre, is called a "bar." In the Daily Weather Report issued by the Meteorological Office, South Kensington, the centibar and the millibar respectively—that is, the hundredth and the thousandth part of the bar—have been adopted as working units of atmospheric pressure since May 1st, 1914. A barometric reading of 100 centibars, or 1000 millibars, is equivalent to 29·53 mercury inches; one of 105 centibars, or 1050 millibars, equals 31 inches, and—in the opposite or downward direction—one of 97 centibars, or 970 millibars, would represent 28·65 inches.

Observers for the Meteorological Office have been furnished with tables for converting from British to metric units and *vice versâ*, and the conversion is thereby rendered quite an easy matter.

I am, Sir, yours faithfully,

JOHN W. MOORE, M.D. Dub., F.R.Met.Soc.

Dublin, May 9th, 1914.

THE HEALTH OF THE PHILIPPINES.

IN the report of the Bureau of Health of the Philippine Islands for the last quarter of 1913 Dr. Heiser relates that there are now more than 60,000 fewer deaths per annum in the Philippines than in 1905, the reduction being mainly in preventable diseases. A 60 bed general hospital has been opened in Cebu. Four persons were discharged from the San Lazaro Hospital after having been apparently cured of leprosy for over two years. Cholera has been under better control than at any previous time. Cholera vibrio carriers were found in every district where the disease occurred. Measures against plague have been successful, for only one case of human plague occurred and no plague-infected rats were found. Rabies is present among dogs, but a soldier and a child bitten by a rabid dog received the Pasteur treatment and no ill-effects have yet appeared.

A DISCLAIMER.

Dr. Edwin L. Ash writes to say that the reference to the London Nerve Clinic contained in a letter in the early editions of the *Pall Mall Gazette* of May 5th was published without his knowledge or consent. On its being brought to his notice he immediately protested to the writer of the letter and endeavoured to prevent its further publication. The offending notice did not appear in the evening editions of the journal mentioned.

IS SILICOSIS AN ACCIDENT?

A. G. W.—Our correspondent asks whether silicosis in a metalliferous miner would be considered an accident under the Workmen's Compensation Act. The reply is that no form of fibrosis is included in the list of scheduled diseases to which this Act applies; therefore no successful claims for compensation under the Act can be made in respect of silicosis. Further, silicosis from its nature could not reasonably be looked upon as an accident in any ordinary sense of that word.

MEDICINE AND MUSIC.

A CORRESPONDENT writes: "On Saturday last, at the Royal Academy of Music, where Dr. and Mrs. Dundas Grant now continue their friendly orchestral meetings held for many years at Cavendish-square, their amateur orchestra, which numbers upwards of 90 members, 20 of them belonging to the medical profession, conveyed their thanks to their hostess and their congratulations to their conductor upon his recent recovery from illness, by the presentation of a floral tribute and of a Japanese dwarf tree as a lasting symbol of their appreciation."

ANTITYPHOID INOCULATION IN BRITISH COLUMBIA.

Dr. Bapty, acting provincial health officer of British Columbia, has published a letter on typhoid prevention in which he quotes the results obtained by Dr. H. G. MacKid, surgeon-general of the Alberta division of the Canadian Pacific Railway. In 1912-13 amongst 13,900 men inoculated only 3 cases occurred, while 6500 men not inoculated showed 296 cases. Vaccine is being distributed free of charge by the Government of British Columbia, which hopes thus to reduce the heavy toll of life and money taken annually by this disease. 700 cases occur annually, costing some £16,000 in hospital charges and losing the patients some £50,000 of wages in the year. Moreover, amongst these 700 cases there were 85 deaths.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

The following journals, magazines, &c., have been received:—Child, Canadian Journal of Medicine and Surgery, Public Health, South African Nursing Record, South African Medical Record, British Journal of Children's Diseases, Journal of Laryngology, Rhinology, and Otology, Medical Review, Dominion Medical Monthly, Journal of Clinical Research, Pediatrics, American Journal of Tropical Diseases, Peru To-day, American Journal of Roentgenology, Archives de Médecine et de Pharmacie Militaires, Monthly Cyclopedia, American Journal of the Medical Sciences, &c.

Medical Diary for the ensuing Week.

SOCIETIES.

ROYAL SOCIETY, Burlington House, London, W.

THURSDAY.—Prof. W. M. Hicks: On the Effect of the Magneton in the Scattering of α Rays.—Hon. R. J. Strutt: Luminous Vapours Distilled from the Arc, with Applications to the Study of Spectrum Series and their Origin. I.—Mr. W. T. Pawlow: On the Ionisation of Gases by Collision and the Ionising Potential for Positive Ions and Negative Corpuscles (communicated by Sir J. J. Thomson).—Mr. C. E. Stromeyer: The Determination of Elastic Limits under Alternating Stress Conditions (communicated by Prof. W. E. Dalby).—Mr. G. W. C. Kaye and Mr. W. F. Higgins: The Emission of Electricity from Various Substances at High Temperatures (communicated by Dr. R. T. Glazebrook).

ROYAL SOCIETY OF MEDICINE, 1, Wimpole-street, W.

TUESDAY.

SECTION OF THERAPEUTICS AND PHARMACOLOGY (Hon. Secretaries: W. Langdon Brown, Philip Hamill): at 4.30 P.M.

Annual General Meeting.—Election of Officers and Council for Session 1914-1915.

Paper:

Dr. E. W. Ainley Walker and Prof. Georges Dreyer: The Dosage of Drugs, Toxins, and Antitoxins.

GENERAL MEETING OF FELLOWS at 5 P.M.

Ballot for Candidates for Fellowship.

SECTION OF PSYCHIATRY (Hon. Secretaries—R. H. Cole, Bernard Hart): at 5.30 P.M.

Annual General Meeting.—Election of Officers and Council for Session 1914-1915.

THURSDAY.

SECTION OF DERMATOLOGY (Hon. Secretaries—J. M. H. MacLeod, S. E. Dore): at 4 P.M.

Annual General Meeting.—Election of Officers and Council for Session 1914-1915.

Demonstration (at 4.15 P.M.):

Cases of Mycosis Fungoides.

Debate (at 5 P.M.):

On Mycosis Fungoides (to be opened by Dr. J. H. Sequeira).

Members intending to take part in the debate are requested to communicate with the Hon. Secretaries.

7.30 P.M., Annual Dinner at the Imperial Restaurant, Regent-street, W.

Members are specially requested to notify the Senior Hon. Secretary if they intend to be present, and to give the names of their guests.

SECTION OF NEUROLOGY (Hon. Secretaries—T. Grainger Stewart, H. Campbell Thomson): at 8.30 P.M.

Annual General Meeting.—Election of Officers and Council for Session 1914-1915.

Paper:

Dr. Ivor J. Davies: The Senghenydd Explosion from a Medical Standpoint.

CLINICAL SECTION.—The Members are specially invited to attend the Meeting of the Section of Neurology.

SECTION OF DERMATOLOGY.—The Members are specially invited to attend the Meeting of the Section of Neurology.

FRIDAY.

SECTION FOR THE STUDY OF DISEASE IN CHILDREN (Hon. Secretaries—F. Langmead, Philip Turner, William J. Midelton): at 4.30 P.M.

Annual General Meeting.—Election of Officers and Council for Session 1914-1915.

Short Papers:

Dr. F. Parkes Weber: A Familial Case of Splenomegalic Anæmia with Infantilism.

Major R. McCarrison, I.M.S.: Nervous Cretinism.

SECTION OF ANÆSTHETICS (Hon. Secertaries—H. E. G. Boyle, Cecil Hughes): at 5.30 P.M.

Annual General Meeting.—Election of Officers and Council for Session 1914-1915.

SECTION OF EPIDEMIOLOGY AND STATE MEDICINE (Hon. Secretaries—G. S. Buchanan, William Butler): at 8.30 P.M.

Annual General Meeting.—Election of Officers and Council for Session 1914-1915.

Paper:

Lieut.-Colonel Wilkinson, I.M.S.: Tuberculosis in India.

SATURDAY.

SECTION OF BALNEOLOGY AND CLIMATOLOGY (Hon. Secretaries—Chas. W. Buckley, J. Campbell McClure).

Provincial Meeting at Leamington.

(Full particulars have already been issued to Members of the Section.)

Annual General Meeting.—Election of Officers and Council for Session 1914-1915.

MEDICAL SOCIETY OF LONDON, 11, Chandos-street, Cavendish-square, W.

MONDAY.—Annual Oration:—Mr. R. Jones. Conversazione.

MEDICO-LEGAL SOCIETY, 11, Chandos-street, Cavendish-square, W.

TUESDAY.—8.30 P.M., Paper:—Dr. W. A. Brend: A supposed Death from Tight-lacing in a Male.

LONDON DERMATOLOGICAL SOCIETY, St. John's Hospital, 49, Leicester-square, W.C.

TUESDAY.—4.30 P.M., Cases will be shown. 5.15 P.M., Laboratory Demonstration and Exhibit:—Mr. F. Curry: Tuberculins, their Preparation and Standardisation.

ROYAL SOCIETY OF ARTS, John-street, Adelphi, W.C.

THURSDAY.—4.30 P.M., Mr. E. A. Gait: The Indian Census of 1911: Ethnography and Occupations.

WIMBLEDON AND DISTRICT MEDICAL SOCIETY, Johnston's Rooms, 6, Broadway, Wimbledon, S.W.

FRIDAY.—9 P.M., Annual General Meeting. Election of President, Officers, and Committee. Address:—Mr. J. F. Colyer: Pyorrhœa Alveolaris, its Local and General Effects.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies-street, W.C.

MONDAY.—4 P.M., Dr. J. M. H. MacLeod: Clinique (Skin). 5.15 P.M., Lecture:—Mr. H. J. Paterson: The Modern Treatment of Gastric Disease (lantern demonstration).

TUESDAY.—4 P.M., Dr. J. Galloway: Clinique (Medical). 5.15 P.M., Lecture:—Mr. L. Norbury: Pruritus Ani.

WEDNESDAY.—4 P.M., Mr. H. Lett: Clinique (Surgical). 5.15 P.M., Lecture:—Dr. A. E. Giles: Diagnostic Aphorisms in Gynæcology.

THURSDAY.—4 P.M., Mr. R. Davies-Colley: Clinique (Surgical). 5.15 P.M., Lecture:—Dr. D. Sommerville: Bio-chemistry and Medicine.

FRIDAY.—4 P.M., Mr. T. B. Layton: Clinique (Ear, Nose, and Throat).

POST-GRADUATE COLLEGE, West London Hospital, Hammersmith-road, W.

MONDAY.—10 A.M., Dr. Simson: Diseases of Women. 10.30 A.M., Medical Registrar: Demonstration of Cases in Wards. 12 noon, Dr. Bernstein: Pathological Demonstration. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Armour: Operations. Dr. Pritchard: Bacterial Therapy Department. Mr. B. Harman: Diseases of the Eye. 5 P.M., Lecture:—Dr. Beddard: Gastro-intestinal Ulceration.

TUESDAY.—10 A.M., Dr. Robinson: Gynæcological Operations. Dr. Owen: Demonstration of Cases in Wards. 12 noon, Mr. T. Gray: Demonstration of Fractures, &c. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Baldwin: Operations. Dr. Davis: Diseases of the Throat, Nose, and Ear. Dr. Pernet: Diseases of the Skin. 5 P.M., Lecture:—Dr. Beddard: Gastro-intestinal Ulceration.

WEDNESDAY.—10 A.M., Dr. Saunders: Diseases of Children. Dr. Davis: Operations of the Throat, Nose, and Ear. 11 A.M., Mr. Souttar: Demonstration of Minor Operations. 12 noon, Lecture:—Mr. Souttar: Abdominal Diagnosis. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Pardoe: Operations. Dr. Simson: Diseases of Women and Diseases of the Eye. 8 P.M., Conversazione.

THURSDAY.—9 A.M., Dr Bernstein: Bacterial Therapy Department. 10.30 A.M., Dr. Simson: Gynæcological Demonstration. 12 noon, Lecture:—Dr. G. Stewart: Neurological Cases. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Armour: Operations. Mr. B. Harman: Diseases of the Eye. 5 P.M., Lecture:—Dr. Beddard: Gastro-intestinal Ulceration.

FRIDAY.—10 A.M., Dr. Robinson: Gynæcological Operations. 10.30 A.M., Surgical Registrar: Demonstration of Cases in Wards. 12.15 P.M., Lecture:—Dr. Bernstein: Applied Pathology. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Baldwin: Operations. Dr. Davis: Diseases of the Throat, Nose, and Ear. Dr. Pernet: Diseases of the Skin. 5 P.M., Lecture:—Dr. Beddard: Gastro-intestinal Ulceration.

SATURDAY.—10 A.M., Dr. Saunders: Diseases of Children. Dr. Davis: Operations of the Throat, Nose, and Ear. Mr. B. Harman: Diseases of the Eye. 12 noon, Lecture:—Mr. Souttar: Surgical Anatomy of the Abdomen. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Pardoe: Operations.

LONDON SCHOOL OF CLINICAL MEDICINE, Dreadnought Hospital, Greenwich.

MONDAY.—Out-patient Demonstrations:—10 A.M. Dr. H. B. Carilli: Medical. Mr. H. Curtis: Surgical. 12 noon, Mr. G. N. Biggs: Throat, Nose, and Ear.——2.15 P.M., Mr. W. Turner: Surgery. 3 P.M., Mr. W. Turner: Operations. 3.15 P.M., Sir Dyce Duckworth: Medicine. 4.15 P.M., Mr. R. Lake: Throat, Nose, and Ear.

TUESDAY.—Out-patient Demonstrations:—10 A.M., Dr. C. E. Zundel: Medical. Mr. Cole: Surgical. 12 noon, Dr. H. MacCormac: Skin.——2 P.M., Mr. L. McGavin: Operations. 2.15 P.M., Mr. R. Carling: Surgery. 3.15 P.M., Dr. G. Rankin: Medicine. 4.15 P.M., Sir Malcolm Morris: Skin. 2.15 P.M., Special Lecture:—Mr. R. Carling: Gastro-enterostomy for Ulcer.

WEDNESDAY.—Out-patient Demonstrations: 10 A.M., Dr. H. B. Carilli: Medical. Mr. Cecil Rowntree: Surgical. 11 A.M., Mr. R. B. Bickerton: Eye.——2 P.M., Mr. L. V. Cargill or Mr. Choyce: Operations. 2.15 P.M., Dr. P. Taylor: Medicine. 3.15 P.M., Mr. Cargill: Eye Clinique. 4.30 P.M., Mr. C. C. Choyce: Surgery.

THURSDAY.—Out-patient Demonstrations:—10 A.M., Dr. H. R. Prentice: Medical. Mr. H. Curtis: Surgical. 12 noon, Mr. G. N. Biggs: Throat, Nose, and Ear.——2 P.M., Mr. R. Carling or Mr. W. Turner: Operations. Dr. A. Davies: Pathological Demonstration. 3.15 P.M., Dr. R. Wells: Medicine. 4.30 P.M., Special Lecture:—Sir James M. Davidson: Notes on Various Cases in which X Rays have been of Value in Diagnosis (illustrated).

FRIDAY.—Out-patient Demonstrations:—10 A.M., Dr. C. E. Zundel: Medical. Mr. Cole: Surgical. 12 noon, Dr. H. MacCormac: Skin.——2 P.M., Mr. L. McGavin: Operations. 2.15 P.M., Sir John Rose Bradford: Medicine. 3.15 P.M., Mr. L. McGavin: Surgery. 2.15 P.M., Special Lecture:—Sir J. Rose Bradford: Angina.

SATURDAY.—Out-patient Demonstrations: 10 A.M., Dr. H. R. Prentice: Medical. Mr. Cecil Rowntree: Surgical. 11 A.M., Mr. R. B. Bickerton: Eye.——10 A.M., Col. Barry: Radiography.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.

MONDAY.—Clinics:—10.30 A.M., Surgical Out-patient (Mr. R. Gillespie). 2.30 P.M., Medical Out-patient (Dr. T. R. Whipham); Gynæcological (Dr. Banister). 3 P.M., Medical In-patients (Dr. R. M. Leslie).

TUESDAY.—2.30 P.M., Operations. Clinics:—Medical Out-patient (Dr. A. G. Auld); Surgical (Mr. Howell Evans); Nose, Throat, and Ear (Mr. H. D. Gillies). X Ray and Electrical Methods (Dr. Metcalfe). 3.30 P.M., Medical In-patient (Dr. A. J. Whiting).

WEDNESDAY.—Clinics:—2 P.M., Throat Operations (Mr. Gillies). 2.30 P.M., Children's Out-patient (Dr. T. R. Whipham); Skin (Dr. G. N. Meachen); Eye (Mr. Dorell). 3 P.M., Clinical Pathology and Pathological Demonstration (Dr. W. H. Duncan). 5.30 P.M., Eye Operations (Mr. Brooks).

THURSDAY.—2.30 P.M., Gynæcological Operations (Dr. A. E. Giles). Clinics:—Medical Out-patient (Dr. A. J. Whiting); Surgical (Mr. Carson); X Rays and Electrical Methods (Dr. Metcalfe).

FRIDAY.—2.30 P.M., Operations. Clinics:—Medical Out-patient (Dr. A. G. Auld); Surgical (Mr. R. Gillespie); Eye (Mr. Dorell). 3 P.M., Medical In-patient (Dr. G. P. Chappel). Clinical Pathology and Pathological Demonstration.

ST. THOMAS'S HOSPITAL MEDICAL SCHOOL (UNIVERSITY OF LONDON), Albert Embankment, S.E.

Lectures in Advanced Medical Subjects:—

TUESDAY.—5 P.M., Dr. H. Maclean: Carbohydrate Metabolism in Health and in Diabetes.

UNIVERSITY COLLEGE HOSPITAL MEDICAL SCHOOL (UNIVERSITY OF LONDON), University-street, Gower-street, W.C.

Lectures in Advanced Medical Subjects:—

FRIDAY.—5 P.M., Dr. C. Bolton: Recent Observations upon Ulcer of the Stomach.

GUY'S HOSPITAL MEDICAL SCHOOL, London Bridge, S.E.

Course of Lectures on Industrial Medicine:—

FRIDAY.—Lecture III.:—Dr. F. Shufflebotham: Miners' Nystagmus, with a Demonstration in Living Cases.

ROYAL HOSPITAL FOR DISEASES OF THE CHEST, Medical School, City-road, E.C.

MONDAY.—1.30 P.M., Department for the Prevention of Consumption. 2 P.M., Cardiac Department, Dr. Stott; Out-patient Department, Dr. Phear, Dr. S. Thompson. 3 P.M., Wards, Dr. Phear.

TUESDAY.—9 A.M., Laryngological Department, Mr. Mant. 1.30 P.M., Department for the Prevention of Consumption. 2 P.M., Out-patient Department, Dr. M. Leslie, Dr. B. King; Operations, Mr. A. Evans. 3 P.M., Wards, Dr. White. 4 P.M., Wards, Dr. M. Leslie.

WEDNESDAY.—2 P.M., Wards, Dr. A. Davies; Out-patient Department, Dr. Drysdale, Dr. Kellie. 4 P.M., Wards, Dr. Drysdale. 4.30 P.M., Roentgen Ray Department, Dr. Jordan.

THURSDAY.—9.30 A.M., Dental Department, Mr. G. Thomson. 10 A.M., Cardiac Department, Dr. Stott. 1.30 P.M., Department for the Prevention of Consumption. 2 P.M., Out-patient Department, Dr. Phear, Dr. S. Thompson. 4.30 P.M. Laryngological Department, Mr. Mant.

FRIDAY.—1.30 P.M., Department for the Prevention of Consumption. 2 P.M., Wards, Dr. Calvert; Out-patient Department, Dr. M. Leslie, Dr. B. King. 5 P.M., Lecture-Demonstration:—Dr. Phear: Tumours of the Mediastinum.

SATURDAY.—10 A.M., Out-patient Department, Dr. Drysdale, Dr. Kellie. 11.30 A.M., Roentgen Ray Department, Dr. Jordan.

LONDON HOSPITAL MEDICAL COLLEGE (UNIVERSITY OF LONDON), Clinical Theatre, London Hospital, Mile End-road, E.

Course of Lectures on Tuberculosis for Post-Graduates and Senior Students:—

MONDAY.—11 A.M., Prof. W. Bulloch: Bacteriology. 4 P.M., Mr. T. H. Openshaw: Caries of the Spine.

TUESDAY.—11 A.M., Dr. H. M. Turnbull: Anatomy and Histology (Ill.). 2 P.M., Mr. H. Lett: Tuberculosis of Bones. 4 P.M., Dr. S. G. Scott: Radiography.

WEDNESDAY.—11 A.M., Prof. W. Bulloch: Heredity. 2 P.M., Mr. H. M. Rigby: Surgery of Tuberculosis of Lymphatic Glands. 4 P.M., Mr. P. Furnivall: Surgery of Tuberculosis of Alimentary Tract.

THURSDAY.—11 A.M., Mr. R. Howard: Surgical Morbid Anatomy. 4 P.M., Sir Frederic Eve: Tuberculosis of Joints.

FRIDAY.—11 A.M., Dr. P. N. Panton: Examination of Excretions, Discharges, Effusions, &c. 2 P.M., Mr. F. S. Kidd: Genito-urinary Tuberculosis.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton, S.W.

WEDNESDAY.—4 P.M., Dr. Wall: Demonstration of Cases.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen-square, Bloomsbury, W.C.

TUESDAY.—3.30 P.M., Clinical Lecture:—Dr. J. Taylor: Cases in the Ward.

FRIDAY.—3.30 P.M., Clinical Lecture:—Dr. G. Stewart: Compression Paraplegia.

CENTRAL LONDON THROAT, NOSE, AND EAR HOSPITAL, Gray's Inn-road, W.C.

FRIDAY.—3 P.M., Lecture:—Dr. D. McKenzie: Some Adventures in the Mouth.

LONDON LOCK HOSPITAL, 91, Dean-street, Soho, W.

Special Course of Instruction in Venereal Diseases, for Post-Graduates and Students, with Practical Demonstrations of the Various Methods of Treatment:—

MONDAY.—Clinics:—1 P.M., Mr. Ryall; 6 P.M., Mr. Gibbs. 5 P.M., Lecture:—Mr. Gibbs: The Diagnosis of Gleet.

TUESDAY.—Clinics:—2 P.M., Mr. Lane; 6 P.M., Mr. Paterson.

WEDNESDAY.—Clinic:—6 P.M., Mr. Shillitoe.

SATURDAY.—Clinic:—2 P.M., Mr. McDonagh.

THE THROAT HOSPITAL, Golden-square, W.
MONDAY.—5.15 P.M., Special Demonstration of Selected Cases.
THURSDAY.—5.15 P.M., Clinical Lecture.

MANCHESTHR HOSPITALS POST-GRADUATE CLINICS.
TUESDAY.—MANCHESTER AND SALFORD HOSPITAL FOR SKIN DISEASES, Quay-street.—4.30 P.M., Dr. G. H. Lancashire: Pyogenic Skin Affections.
WEDNESDAY.—ROYAL INFIRMARY—4.30 P.M., Demonstration of Cases.
THURSDAY.—ANCOATS HOSPITAL—4.30 P.M., Dr. A. Renshaw: Intrathecal Injections of Neosalvarsan—The Luetin Reaction.

UNIVERSITY OF LEEDS, Great Hall of the University, College-road.
Special Lectures on Medical Subjects:—
WEDNESDAY.—4 P.M., Sir Thomas Oliver: Lead Poisoning from the Industrial and Medical Point of View.
For further particulars of the above Lectures, &c., see Advertisement Pages.

A DIARY OF CONGRESSES.

THE following Congresses, Conferences, and Exhibitions are announced. In 1914:—

May 1st–Nov. 1st (Lyons).—International Town Hygiene Exhibition.
,, 15th–Oct. 15th (Berne).—Swiss National Exhibition.
,, 18th–21st (London, Imperial Institute).—Victoria League Imperial Health Conference.
May–October (London, Shepherd's Bush).—Anglo-American Exposition.
June 8th–10th (Berne).—Seventh International Dairy Congress.
,, 9th–12th (Birmingham).—National Council of Nurses' Annual Conference and Nursing Exhibition.
,, 15th–18th (Portsmouth).—International Abolitionist Conference (Prostitution).
,, 18th–24th (London, Church House, Westminster).—International Conference on the Blind.
June–July (Groningen).—University of Groningen 300th Anniversary Celebration.
July 2nd and 3rd (Liverpool).—National Conference on Infant Mortality.
,, 6th–11th (Blackpool).—Twenty-ninth Congress of the Royal Sanitary Institute.
,, 7th–10th (St. John, N.B.).—Canadian Medical Association.
,, 8th–10th (Oxford).—Ophthalmological Congress.
,, 15th–20th (Edinburgh).—Congress of the Royal Institute of Public Health.
,, 21st–23rd (Chester).—British Pharmaceutical Conference.
,, 27th–31st (London).—Fifth Annual Session of the Clinical Congress of Surgeons of North America.
,, 28th–31st (Aberdeen).—Eighty-second Annual Meeting of the British Medical Association.
Aug. 3rd–8th (London).—Sixth International Dental Congress.
,, 10th–15th (St. Petersburg).—Twelfth International Congress of Ophthalmology.
Sept. 7th–12th (Berne).—International Congress for Neurology, Psychiatry, and Psychology.
,, 10th–12th (Fort William and Port Arthur, Ontario).—Fourth Annual Congress of the Canadian Public Health Association.
,, 21st–28th (Victoria, B.C.).—Dominion Exhibition.
,, 21st–26th (Vienna).—Third International Congress on Diseases of Occupation.
,, 30th–Oct. 3rd (Brussels).—Fourteenth French Congress of Medicine.
Oct. 31st–Nov. 2nd (Berlin).—First Congress of the International Society for Sexual Research.

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(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, May 13th, 1914.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radio in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks.
May 7	29·49	W.	0·85	119	64	50	51	55	Cloudy
,, 8	29·59	W.	0·02	114	69	47	46	50	Cloudy
,, 9	29·76	N.W.	...	62	49	47	45	48	Overcast
,, 10	30·09	W.	0·05	70	53	41	46	49	Overcast
,, 11	29·99	S.W.	...	103	56	41	46	51	Cloudy
,, 12	30·13	W.	...	108	55	44	44	47	Cloudy
,, 13	30·19	W.	...	76	57	46	46	49	Cloudy

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